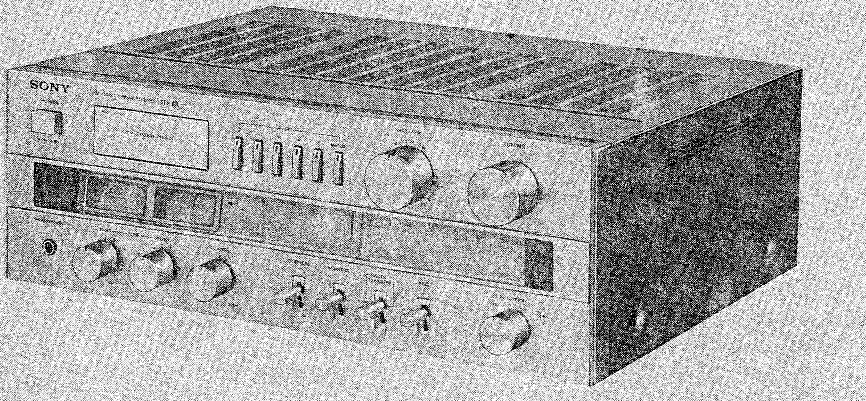
A148

STR-V3L

AEP Model
UK Model



FM STEREO/FM-AM RECEIVER

SPECIFICATIONS

GENERAL

Power Requirements:	120 V, 220 V or 240 V ac adjustable, 50/60 Hz
Power Consumption:	250 W (UK model) 190 W (AEP model)
Dimensions:	Approx. 440 (w) x 145 (h) x 370 (d) mm 17 ½ (w) x 5 ¾ (h) x 14 ½ (d) inches including projecting parts and controls
Weight:	Approx. 9.4 kg, 20 lb 12 oz (net) Approx. 11.5 kg, 25 lb 6 oz (in shipping carton)

FM SECTION

Frequency Range:	87.5 — 108 MHz
Antenna:	300 Ω balanced 75 Ω unbalanced
Intermediate Frequency:	10.7 MHz
Sensitivity at 46dB Quieting: (at 40 kHz deviation)	4.5 µV (18.3 dBf) (MONO) 50 µV (39.1 dBf) (STEREO)
Usable Sensitivity: (at 40kHz deviation)	2 µV (11.2 dBf), IHF 1.6 µV, S/N=26 dB
S/N Ratio: (at 40kHz deviation)	67 dB (MONO) 63 dB (STEREO)
Limiting Threshold:	1.4 µV
Harmonic Distortion: (at 40kHz deviation)	At 100 Hz 0.2 % (MONO) 0.3 % (STEREO) At 1 kHz 0.2 % (MONO) 0.3 % (STEREO) At 10 kHz 0.3 % (MONO) 0.6 % (STEREO)
IM Distortion: (at 40kHz deviation)	0.2 % (MONO) 0.3 % (STEREO)
Separation:	40 dB at 100 Hz 45 dB at 1 kHz 32 dB at 10 kHz
Frequency Response:	40 — 12,500 Hz $^{+0.5}_{-1.0}$ dB 30 — 15,000 Hz $^{+1.0}_{-2.0}$ dB

— Continued on page 2 —

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SONY®

SERVICE MANUAL

Selectivity: 70 dB (400 kHz
45 dB (300 kHz)

Capture Ratio: 1.0 dB

AM Suppression Ratio: 55 dB

Image Response Ratio: 45 dB

IF Response Ratio: 95 dB

Spurious Response Ratio: 75 dB

RF Intermodulation: 60 dB

Muting Threshold: Approx. 5 μV

Sub-carrier Product Ratio: 40 dB

AM (MW, LW) SECTION

Frequency Range: MW: 530 – 1,605 kHz
LW: 150 – 350 kHz

Antenna: Built-in ferrite-rod antenna
External antenna terminal

Intermediate Frequency: 468 kHz

Usable Sensitivity: MW: 200 μV/m (46 dB/m)
built-in antenna (1,000 kHz)
100 μV (40 dB),
external antenna (1,000 kHz)
LW: 450 μV/m (53 dB/m),
built-in antenna (250 kHz)
100 μV (40 dB),
external antenna (250 kHz)

S/N Ratio: MW: 50 dB (50 mV/m)
LW: 50 dB (50 mV/m)

Harmonic Distortion: MW: 0.5 % (50 mV/m, 400 Hz)
LW: 0.5 % (50 mV/m, 400 Hz)

Selectivity: MW: 35 dB (10 kHz)
LW: 35 dB (10 kHz)

Image Response Ratio: MW: 40 dB (1,000 kHz)
LW: 75 dB (250 kHz)

AUDIO AMPLIFIER SECTION

Continuous RMS Power Output: Less than 0.3 % THD, both channels driven simultaneously
At 20 – 20,000 Hz
25 W + 25 W (8 Ω)
At 1 kHz
28 W + 28 W (8 Ω)
28 W + 28 W (4 Ω, 0.5 %)
According to DIN 45500
25 W + 25 W (8 Ω)

Dynamic Power Output: IHF constant power supply method
70 W (8 Ω)

Power Bandwidth: 10 – 35,000 Hz, IHF

Damping Factor: 30 at 1 kHz (8 Ω)

Harmonic Distortion: Less than 0.3 % at rated output
Less than 0.1 % at 1 W output

IM Distortion: Less than 0.3 % at rated output
(60 Hz : 7 kHz = 4 : 1) Less than 0.1 % at 1 W output

Residual Noise: Less than 0.3 mV (A-network)

Frequency Response: PHONO:
RIAA equalization curve ±0.8 dB
TAPE REC/PB :
10 – 40,000 Hz $^{+0.5}_{-3}$ dB

Inputs:

	Sensitivity	Impedance	S/N	Weighting network
PHONO	2.5 mV (–50 dB)	50 kΩ	75 dB	A
TAPE REC/PB	150 mV (–14.5 dB)	50 kΩ	100 dB	A

Measured with rated output power into 8 Ω loads (both channels driven simultaneously) at 1 kHz.

Outputs:
(with rated input, FM 30 % modulation, speaker rated output)

	Voltage	Impedance
REC OUT	150 mV (–14.5 dB)	4.7 kΩ
REC/PB	25 mV (–30 dB)	82 kΩ

Headphones: Accepts 8 Ω to 10 kΩ headphones

Speaker: 4 – 16 Ω speakers are suitable.

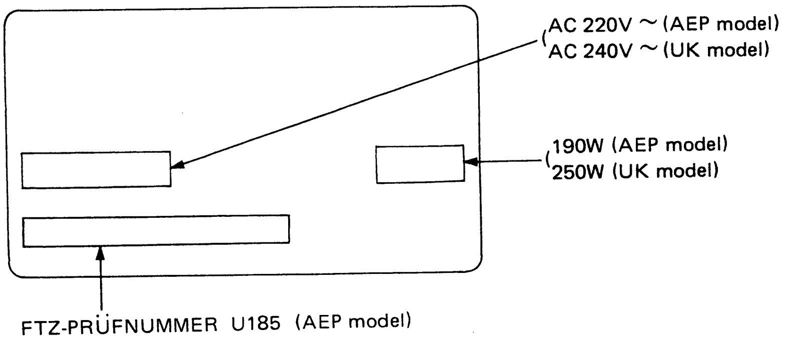
Tone Controls: BASS: ±8 dB at 100 Hz
TREBLE: ±6 dB at 10 kHz

Loudness Control: +10 dB at 50 Hz
(att. 30 dB) +3 dB at 10 kHz

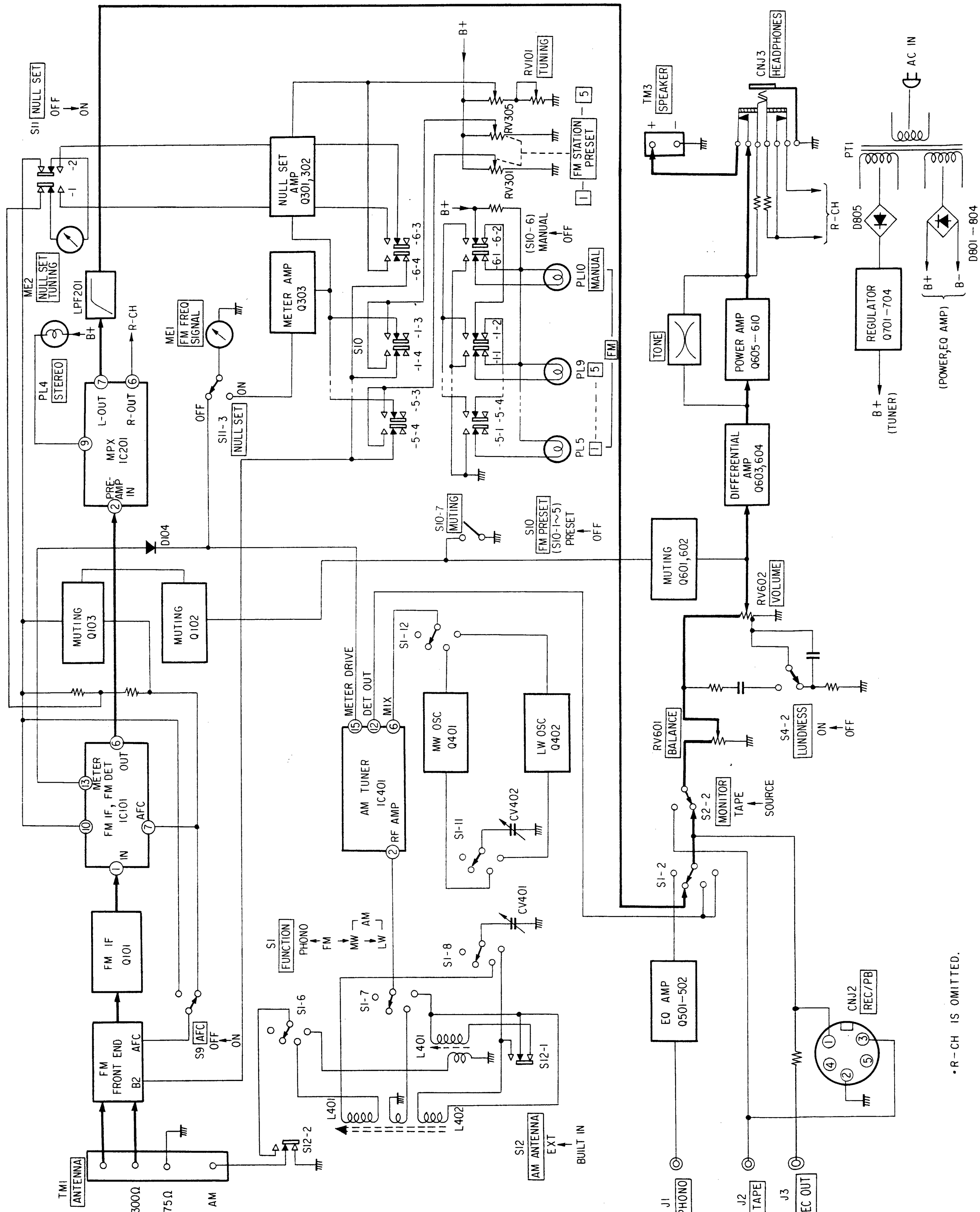
0dB = 0.775V

MODEL IDENTIFICATION

Specification Label



SECTION 1
BLOCK DIAGRAM

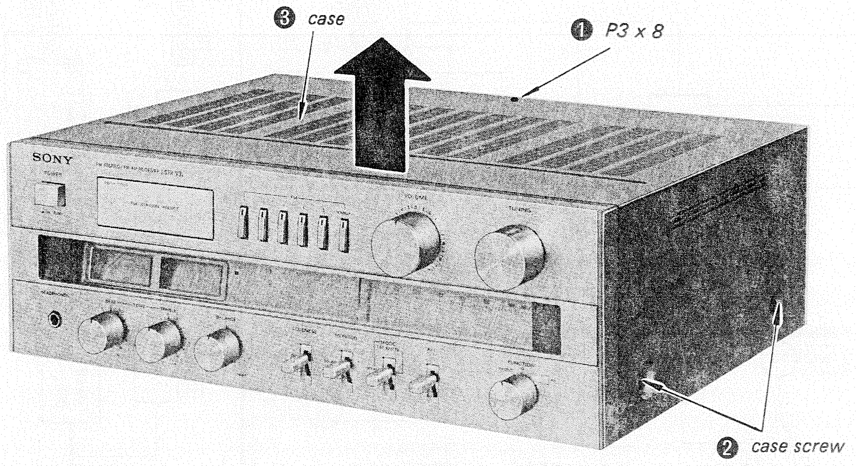

TM1 ANTENNA
300Ω
75Ω
FM
AM
FM FRONT END
AFC
B2
FM IF Q101
FM IF, FM DET IC101
IN
OUT
METER
AFC
MUTING Q103
MUTING Q102
D104
MPX IC201
PRE-AMP IN
L-OUT
R-OUT
R-CH
PL4 STEREO
B+
LPF201
ME2 NULL SET TUNING
S11 NULL SET
OFF → ON
S9 AFC
OFF
ON
S11-3 NULL SET
ME1 FM FREQ SIGNAL
NULL SET AMP Q301,302
METER AMP Q303
S10
RV101 TUNING
RV305
RV301
FM STATION PRESET
PL10 MANUAL
PL9
PL5
FM
(S10-6) MANUAL
OFF
S10-7 MUTING
S10 FM PRESET (S10-1~5)
PRESET
OFF
AM TUNER IC401
METER DRIVE
DET OUT
MIX
RF AMP
MW OSC Q401
LW OSC Q402
S1-12
S1-11
CV402
CV401
S1-8
S1-7
S1-6
S1 FUNCTION
PHONO
FM
MW
LW
AM
L401
L402
S12-1
S12-2
S12 AM ANTENNA
EXT
BUILT IN
TM3 SPEAKER
CNJ3 HEADPHONES
R-CH
TONE
POWER AMP Q605 - 610
DIFFERENTIAL AMP Q603,604
MUTING Q601,602
RV602 VOLUME
RV601 BALANCE
S4-2 LOUDNESS
ON
OFF
S2-2 MONITOR
TAPE
SOURCE
S1-2
EQ AMP Q501-502
J1 PHONO
J2 TAPE
J3 REC OUT
CNJ2 REC/PB
AC IN
PT1
D805
D801 - 804
REGULATOR Q701-704
B+ (TUNER)
B+
B-
(POWER,EQ AMP)

•R-CH IS OMITTED.

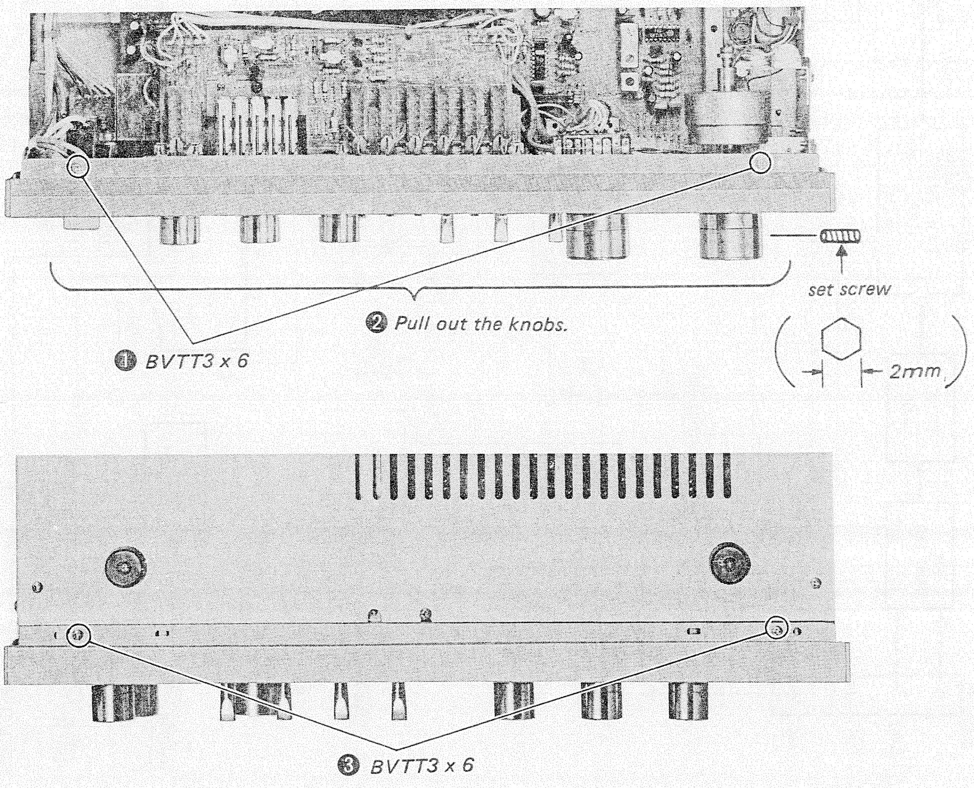
SECTION 2
DISASSEMBLY AND REPLACEMENT

Note: Follow the disassembly procedure in the numerical order given.

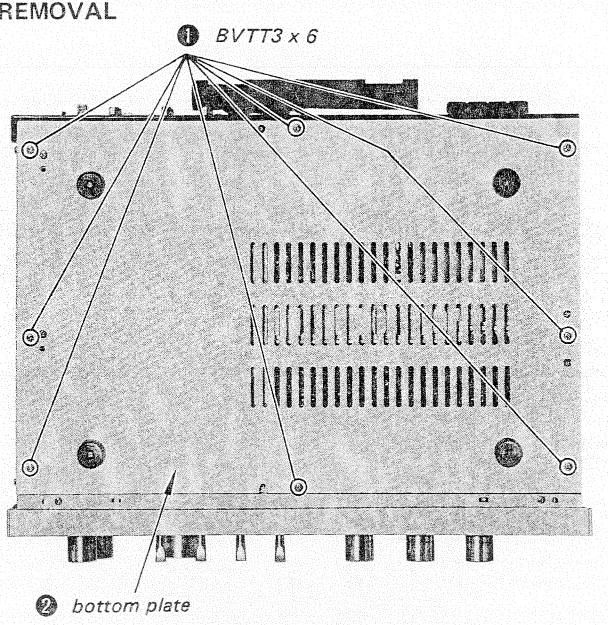
CASE REMOVAL


❸ case
❶ P3 x 8
❷ case screw

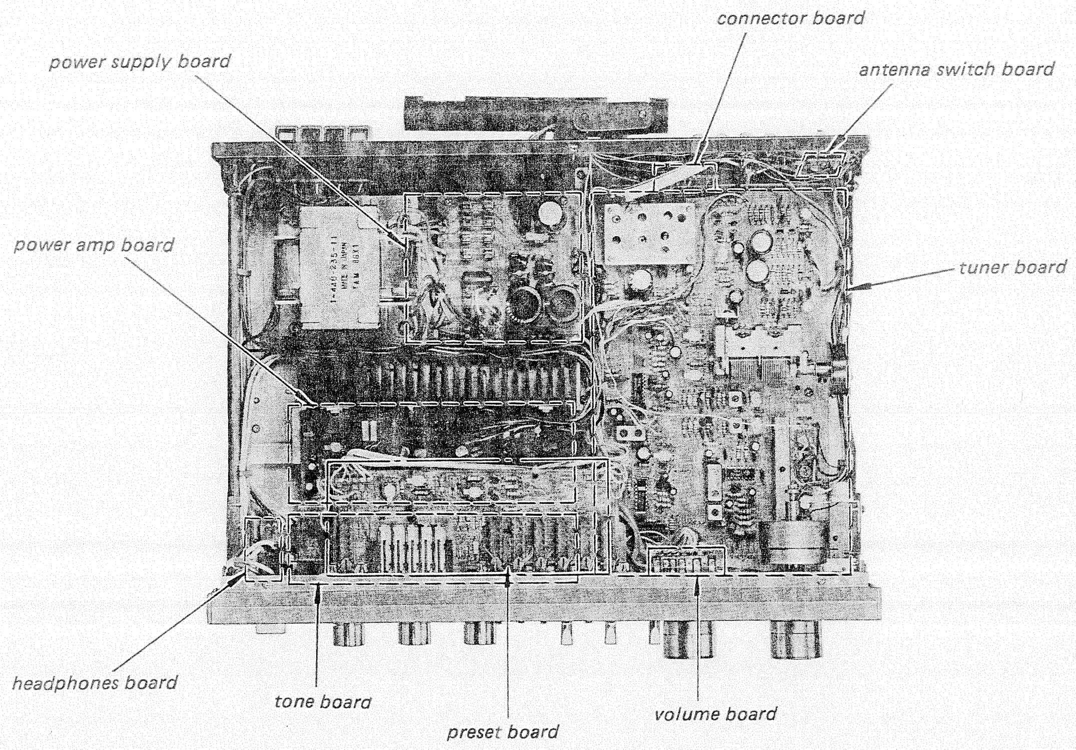
PANEL REMOVAL


set screw
2mm
❷ Pull out the knobs.
❶ BVTT3 x 6
❸ BVTT3 x 6

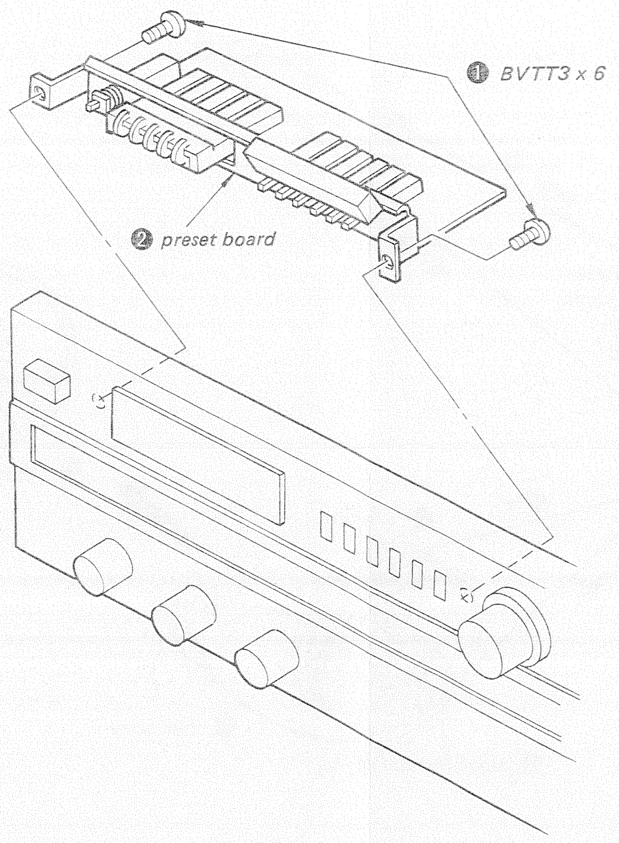
BOTTOM PLATE REMOVAL


❶ BVTT3 x 6
❷ bottom plate

CIRCUIT BOARDS LOCATION

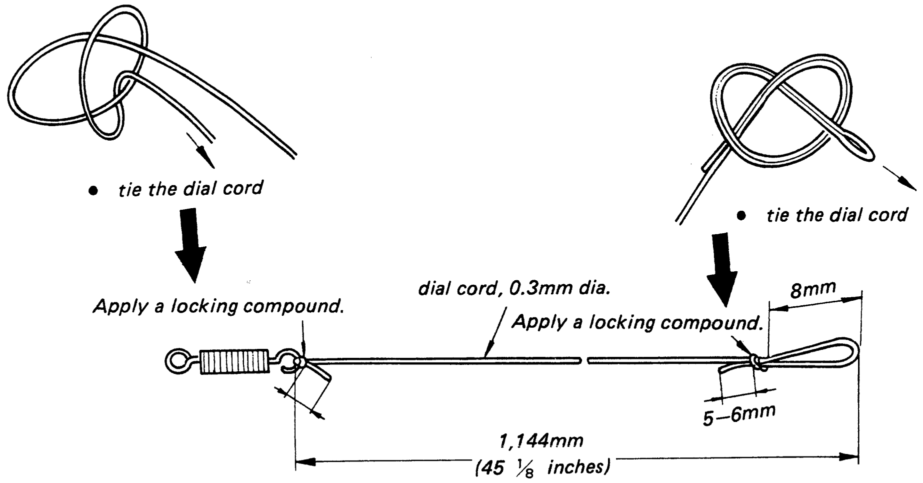

connector board
power supply board
antenna switch board
power amp board
tuner board
headphones board
tone board
preset board
volume board

PRESET BOARD REMOVAL


❶ BVTT3 x 6
❷ preset board

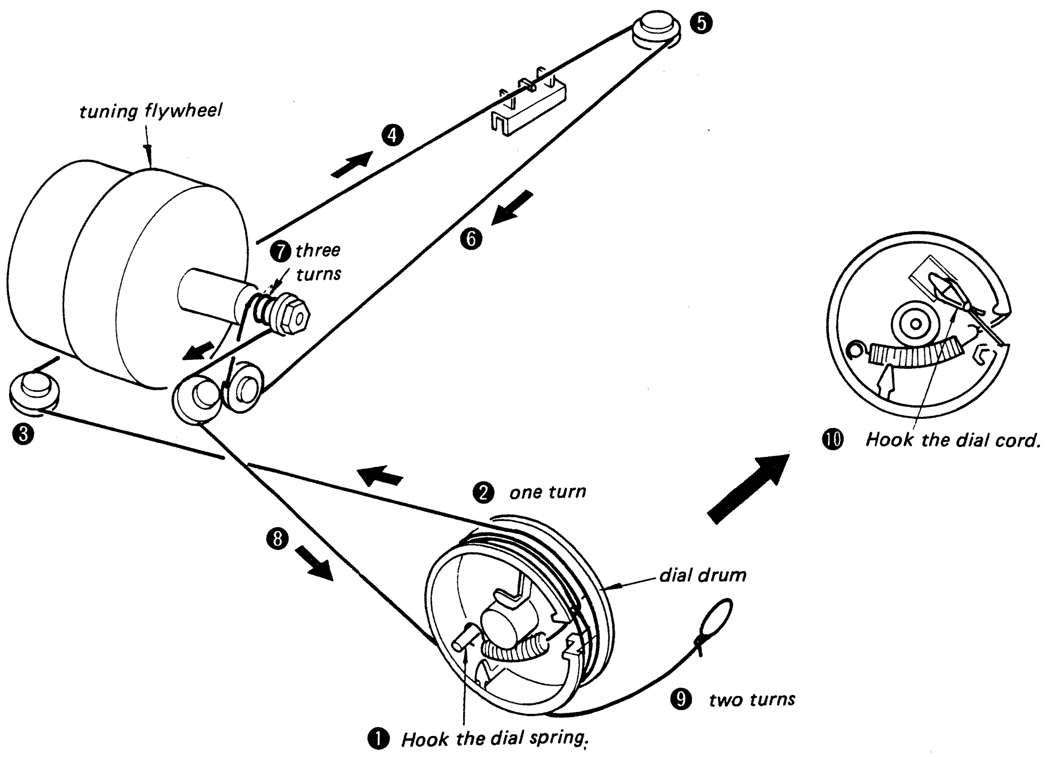
DIAL CORD STRINGING

1. Dial Cord Preparation

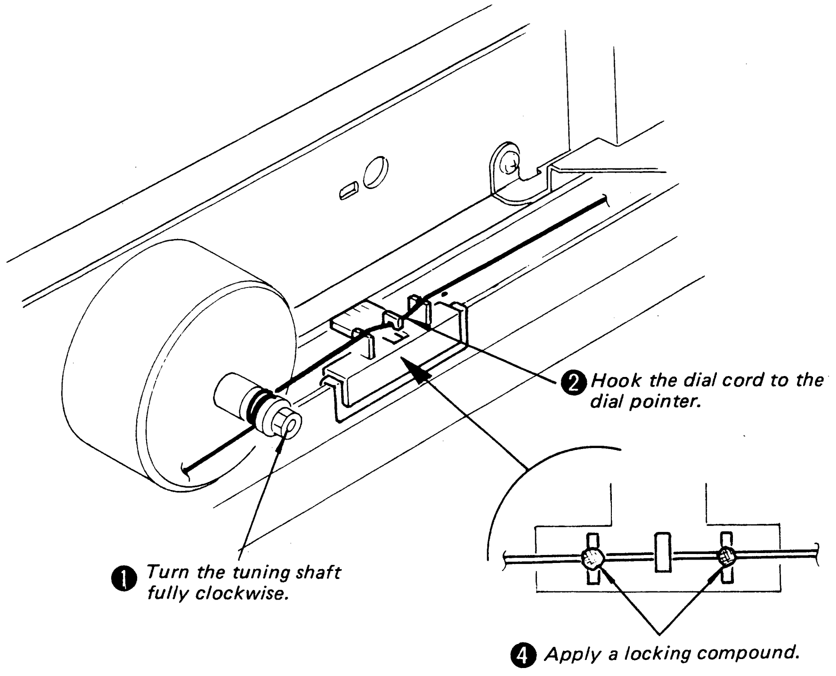

• tie the dial cord
• tie the dial cord
Apply a locking compound.
dial cord, 0.3mm dia.
Apply a locking compound.
8mm
5–6mm
1,144mm
(45 ⅛ inches)

2. Dial Cord Stringing

- *Turn the dial drum fully counterclockwise.*


tuning flywheel
❺
❹
❻
❼ three turns
❸
❷ one turn
❽
dial drum
❾ two turns
❶ Hook the dial spring.
❿ Hook the dial cord.

3. Dial Pointer Installation


❷ Hook the dial cord to the dial pointer.
❶ Turn the tuning shaft fully clockwise.
❹ Apply a locking compound.

❸ *Set the dial pointer at "108.4 MHz.*

SECTION 3
ELECTRICAL ADJUSTMENTS

Bias Adjustment

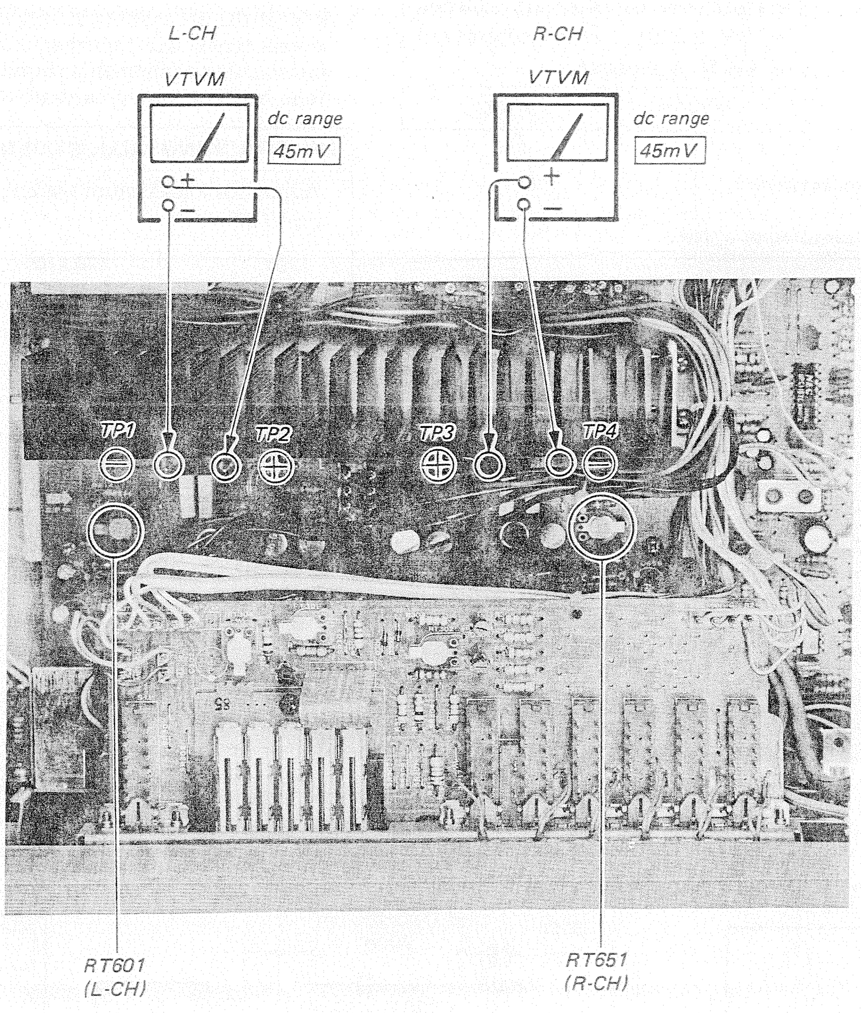
Setting:

1. Detune the set.
2. Perform this adjustment in one minute or more after turning the power switch on.

Procedure:

1. Adjust RT601 (L-CH) and RT651 (R-CH) for a 45 mV reading on the VTVM.

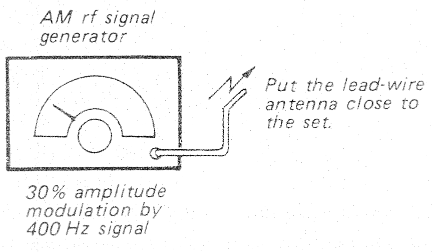
Adjustment Location: *– power amp board –*

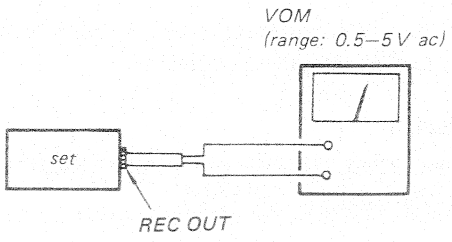

L-CH
R-CH
VTVM
VTVM
dc range
45mV
dc range
45mV
+
−
+
−
TP1
TP2
TP3
TP4
RT601
(L-CH)
RT651
(R-CH)

LW SECTION

Setting: FUNCTION switch: LW
AM ANTENNA switch: BUILT-IN

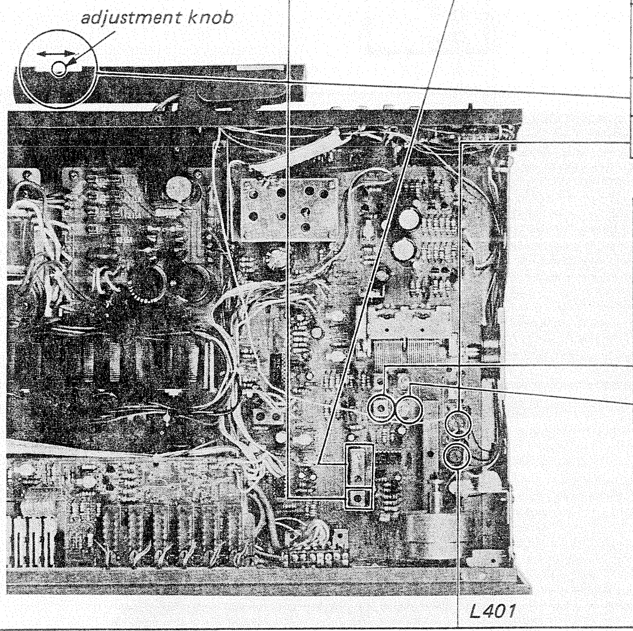
Note: Repeat the LW and MW Tracking Adjustments alternately.


AM rf signal generator
Put the lead-wire antenna close to the set.
30% amplitude modulation by 400 Hz signal


VOM
(range: 0.5–5 V ac)
set
REC OUT

IFT401 and CFT401 are adjusted in the factory, so no adjustment of AM IF is necessary.	
IFT401	*CFT401*

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.


adjustment knob
L401

LW TRACKING ADJUSTMENT

Adjust for a maximum reading on VOM.

L1	*170 kHz*
CT401	*310 kHz*

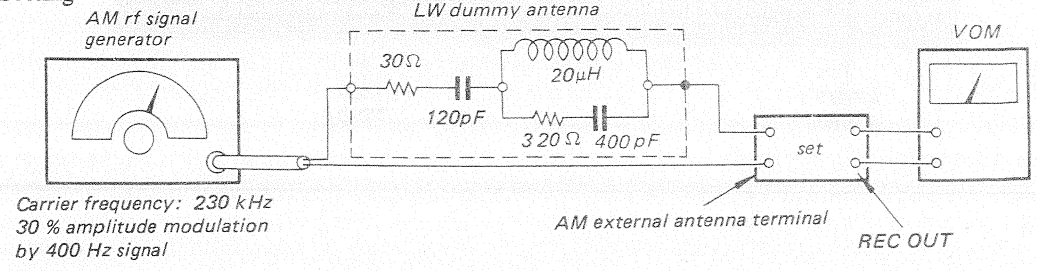
LW FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on VOM.

L406	*145 kHz*
CT404	*365 kHz*

LW EXT ANTENNA COIL ADJUSTMENT

Setting:


AM rf signal generator
LW dummy antenna
30Ω
120pF
20μH
320Ω
400pF
VOM
set
AM external antenna terminal
REC OUT

Carrier frequency: 230 kHz
30 % amplitude modulation
by 400 Hz signal

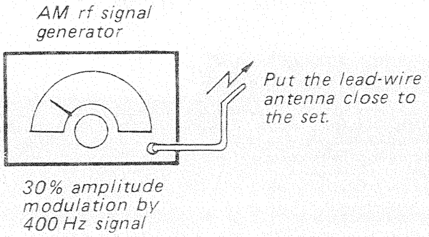
Procedure:

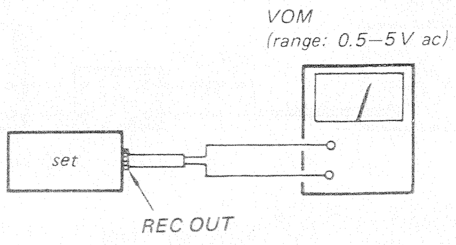
1. Set the AM ANTENNA switch to EXT position.
2. Tune the set to 230 kHz and adjust L401 for a maximum reading on VOM.

MW SECTION

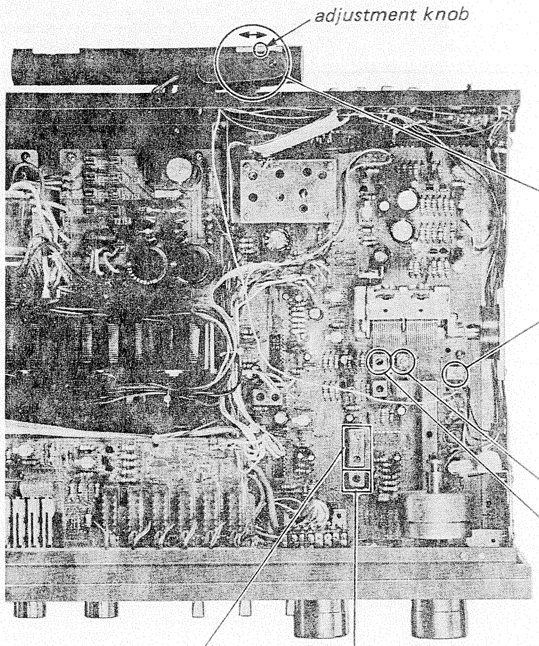
Setting: FUNCTION switch: MW
AM ANTENNA switch: BUILT-IN

Note: Repeat the LW and MW Tracking Adjustments alternately.


AM rf signal generator
Put the lead-wire antenna close to the set.
30% amplitude modulation by 400 Hz signal


VOM (range: 0.5—5 V ac)
set
REC OUT

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.


adjustment knob

MW TRACKING ADJUSTMENT

Adjust for a maximum reading on VOM.

L1	600 kHz
CT402	1,350 kHz

MW FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on VOM.

CT403	1,680 kHz
L405	520 kHz

CFT401	IFT401

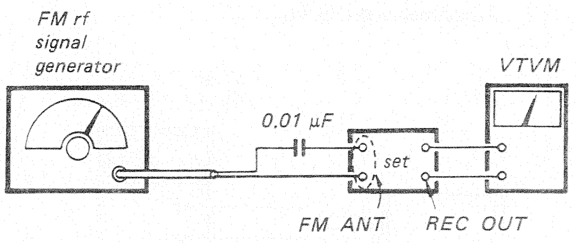
IFT401 and CFT401 are adjusted in the factory, so no adjustment of AM IF is necessary.

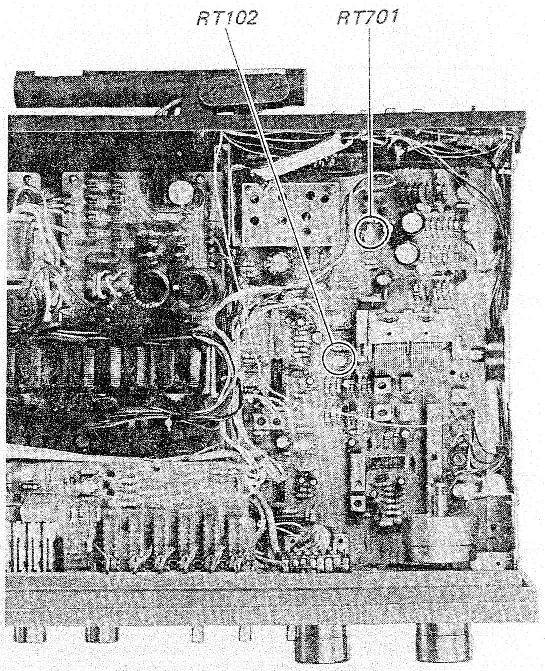
FM SECTION

High Frequency and Low Frequency Adjustment

Setting: PRESET switch (S10-6): MANUAL

Adjustment Location: – tuner board –


FM rf signal generator
VTVM
0.01 μF
set
FM ANT
REC OUT


RT102
RT701

FM Signal Generator Setting:

Carrier frequency:	108.4 MHz, 87.2 MHz
Output level:	1mV (60 dB)
Modulation:	400 Hz, 75 kHz deviation (100 %)

- **High Frequency Adjustment**

Procedure:

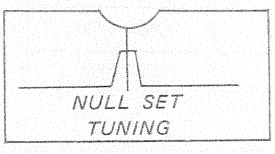
1. Tune the set to 108.4 MHz.
2. Turn the variable capacitor fully clockwise.
3. Adjust RT701 for the center reading on the TUNING meter.

- **Low Frequency Adjustment**

Procedure:

1. Tune the set to 87.2 MHz.
2. Turn the variable capacitor fully counter-clockwise.
3. Adjust RT102 for the center reading on the TUNING meter.

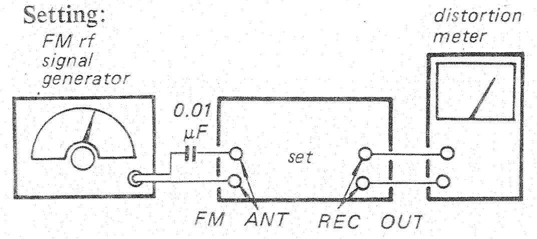
Note: Repeat the high frequency and low frequency adjustment several times.


NULL SET
TUNING

FM SECTION

Discriminator Adjustment

Setting:


FM rf signal generator
distortion meter
0.01 µF
set
FM ANT
REC OUT

FM Signal Generator Setting:

Carrier frequency:	98 MHz
Output level:	1 mV (60 dB)
Modulation:	400 Hz, 75 kHz deviation (100 %)

- Secondary-side Adjustment

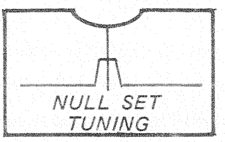
Procedure:

1. Tune the set to 98 MHz.
2. Adjust the secondary-side core (black) of IFT101 for a minimum reading on the distortion meter.

- Primary-side Adjustment

Procedure:

1. Detune the set.
2. Adjust the primary-side core (blue) of IFT101 for the center reading on the TUNING meter.


NULL SET
TUNING

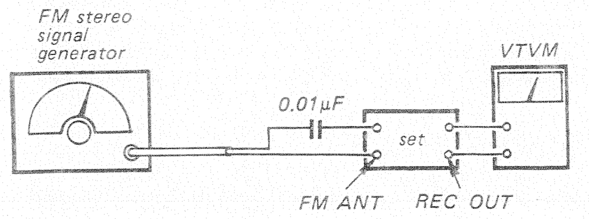
Note: Repeat the secondary-side and primary-side adjustments several times.

FM Stereo Separation Adjustment

Setting:

MODE switch: FM STEREO

Procedure:


FM stereo signal generator
VTVM
0.01µF
set
FM ANT
REC OUT

FM Signal Generator Setting:

Carrier frequency:	98 MHz
Output level:	1 mV (60 dB)
Mode:	Stereo
Modulation:	
Audio (400 Hz):	33.75 kHz deviation (45 %)
Pilot (19 kHz):	7.5 kHz deviation (10 %)

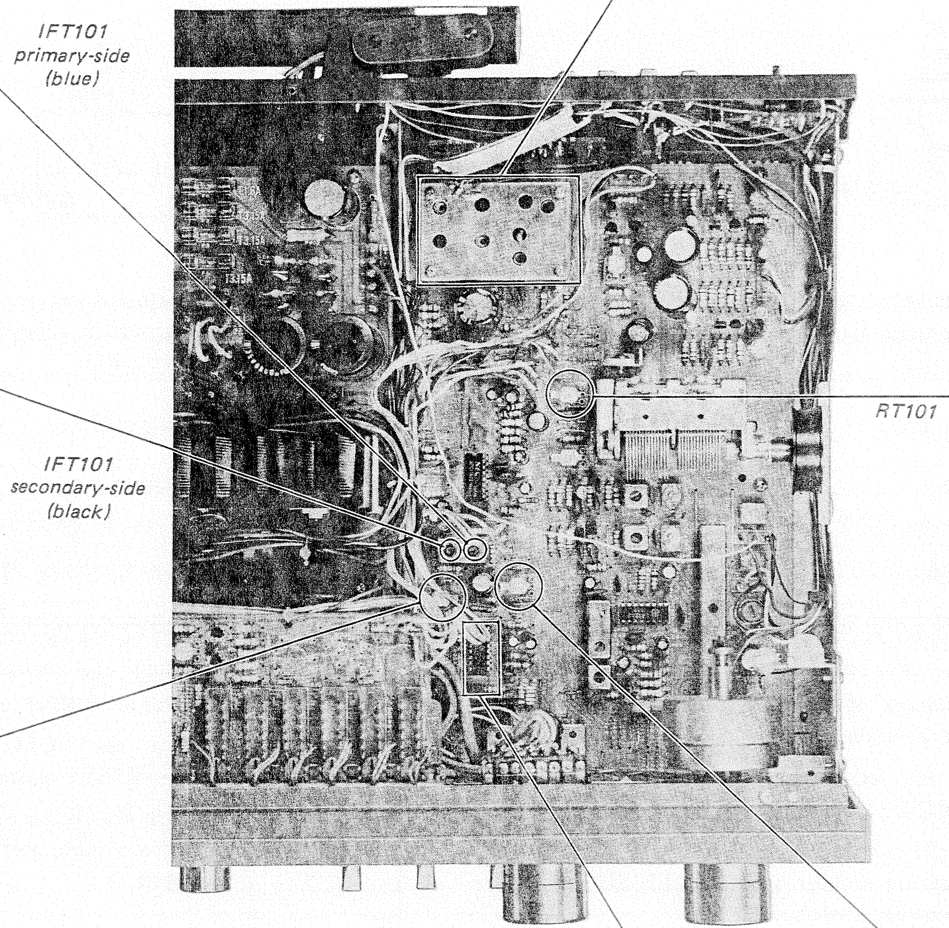
FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RT202 for Minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RT202 for minimum reading.

L-CH Stereo separation: Ⓐ − Ⓑ
R-CH Stereo separation: Ⓒ − Ⓓ

The difference between separations of both channels should be equal.

FRONT–END SECTION

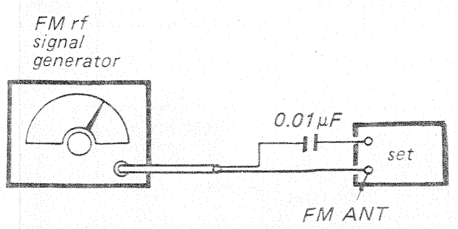
The front-end section has been carefully adjusted at the factory, so the adjustment is unnecessary in the field.


IFT101 primary-side (blue)
IFT101 secondary-side (black)
RT101
RT202
IC201
RT201

Signal Meter Adjustment

Setting:

FUNCTION switch: FM

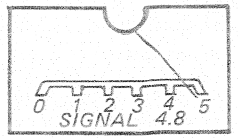

FM rf signal generator
0.01µF
set
FM ANT

FM Signal Generator Setting:

Carrier frequency:	98 MHz
Modulation:	no modulation
Output level:	3.2 mV (70 dB)

Procedure:

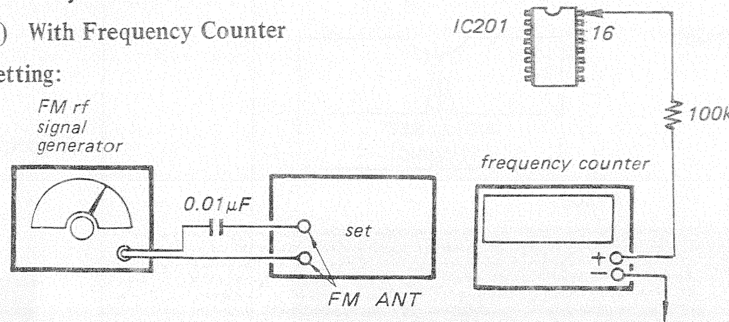
Tune the set to 98 MHz and adjust RT101 for specified pointer position (See figure below.) on the SIGNAL meter.


0 1 2 3 4 5
SIGNAL
4.8

VCO Adjustment

A) With Frequency Counter

Setting:


IC201
16
100kΩ
FM rf signal generator
0.01µF
set
frequency counter
FM ANT
to ground

FM Signal Generator Setting:

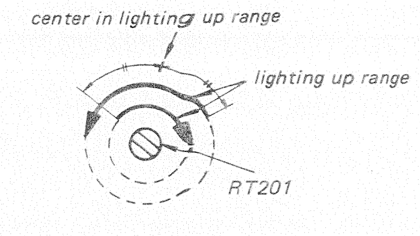
Carrier frequency:	98 MHz
Modulation:	no modulation
Output level:	1 mV (60 dB)

Procedure:

1. Tune the set to 98 MHz.
2. Adjust RT201 for 76 kHz ± 100 Hz on the counter.

B) Without Frequency Counter

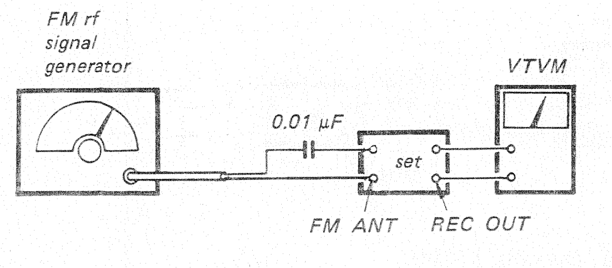
1. Tune the set to FM stereo signals.
2. Turn RT201 clockwise or counterclockwise and secure RT201 at the center in lighting-up range of stereo lamp as shown below.


center in lighting up range
lighting up range
RT201

PRESET BOARD ADJUSTMENTS

1. Low Frequency Adjustment

Setting: PRESET switch $\boxed{1}$ (S10-1): ON


FM rf signal generator
VTVM
0.01 μF
set
FM ANT
REC OUT

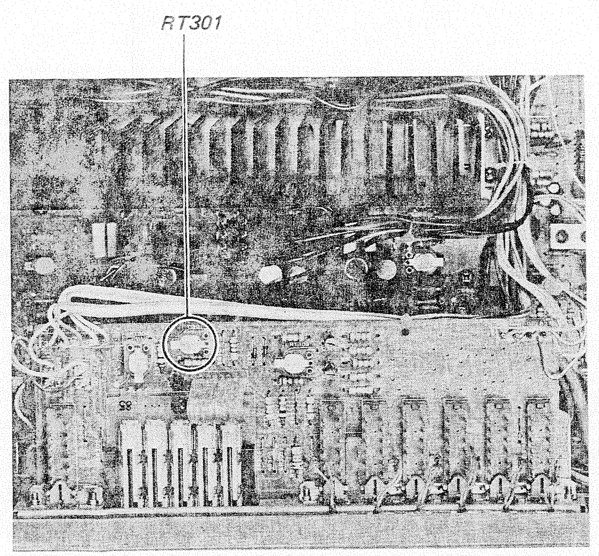
FM Signal Generator Setting:

Carrier frequency:	87.2 MHz
Modulation:	400 Hz, 75 kHz deviation (100 %)
Output level:	1 mV (60 dB)

Procedure:

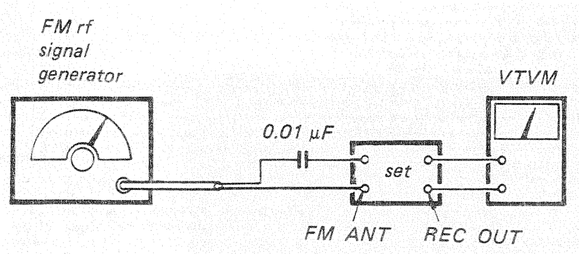
1. Tune the set to 87.2 MHz.
2. Turn the PRESET control (RV301) fully counterclockwise.
3. Adjust RT301 to receive the signal.

Adjustment Location:



2. DC Balance Adjustment

Setting:


FM rf signal generator
VTVM
0.01 μF
set
FM ANT
REC OUT

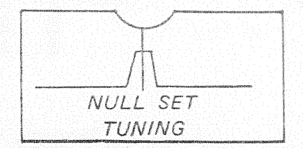
FM Signal Generator Setting:

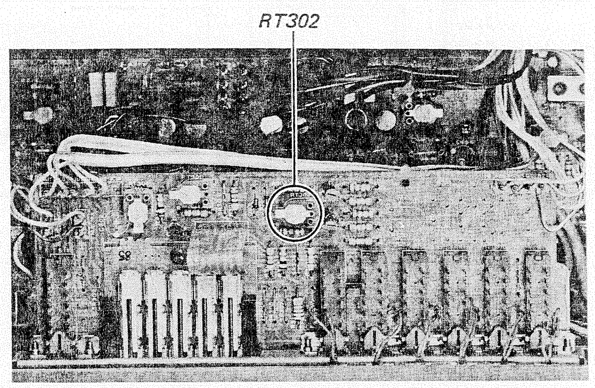
Carrier frequency:	98 MHz
Modulation:	400 Hz, 75 kHz deviation (100 %)
Output level:	1 mV (60 dB)

Procedure:

1. Set the PRESET switch to MANUAL.
2. Tune the set to 98 MHz.
3. Set the PRESET switch to $\boxed{1}$ and turn the NULL SET switch (S11) on.
4. Adjust the PRESET control (RV301) so that the pointer of the NULL SET meter set to the center position.
5. Turn the NULL SET switch off and readjust the PRESET controls.
6. Turn the NULL SET switch on and adjust RT302 so that the pointer of the NULL SET meter set to the center position.
7. Confirm that the NULL SET meter position is correct. If necessary, repeat this adjustment several times.

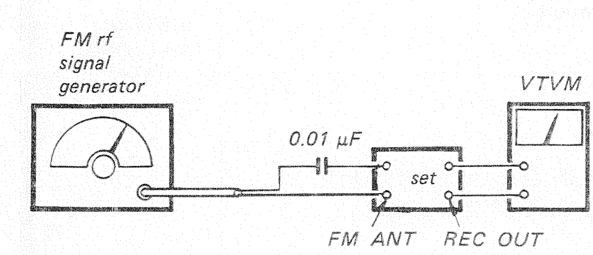
Adjustment Location:


NULL SET
TUNING



3. Meter Adjustment (FM FREQ)

Setting:

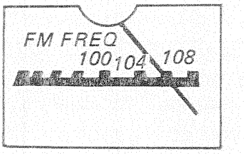

FM rf signal generator
VTVM
0.01 μF
set
FM ANT
REC OUT

FM Signal Generator Setting:

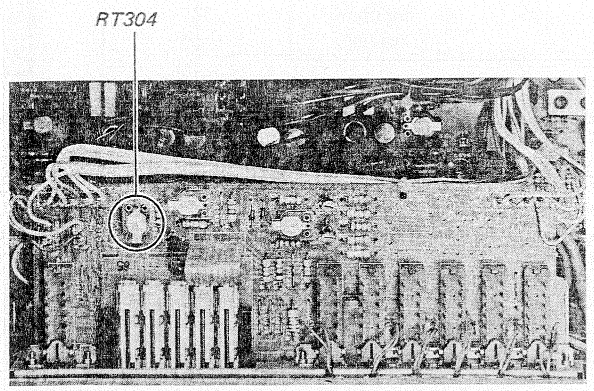
Carrier frequency:	108 MHz
Modulation:	400 Hz, 75 kHz deviation (100 %)
Output level:	1 mV (60 dB)

Procedure:

1. Set the PRESET switch to MANUAL.
2. Tune the set to 108 MHz.
3. Set the PRESET switch to $\boxed{1}$ and turn the NULL SET switch (S11) on.
4. Adjust the PRESET control for the center position of pointer on the NULL SET meter.
5. Turn the NULL SET switch off and readjust the PRESET controls.
6. Turn the NULL SET switch on and adjust RT304 for specified pointer position on the FM FREQ meter.


FM FREQ
100
104
108

Adjustment Location:

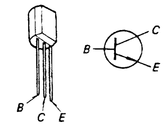


SECTION 4
DIAGRAMS

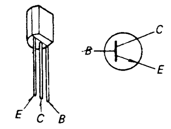
Replacement Semiconductors

For replacement, use semiconductors except in ( ).

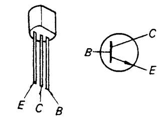
Q101 : 2SC710
Q401, 402 : 2SC710-15 (2SC710)



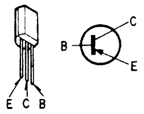
Q102, 103
Q301–303
Q601, 602, 652
Q701, 703
} : 2SC1364 (2SC945)



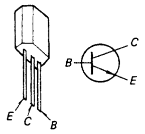
Q501, 551
Q603, 604
Q653, 654
} : 2SC1345
Q608, 658 : 2SD667

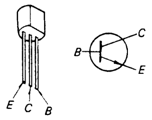


Q502, 552 : 2SA872-D (2SA836)

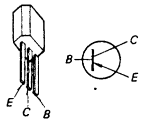


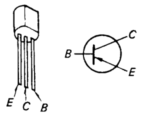
Q605, 655 : 2SC926A (2SC1896)



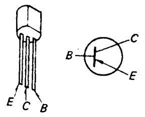


Q606, 656 : 2SA678 (2SA893)

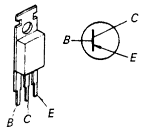


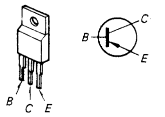


Q607, 657 : 2SB647

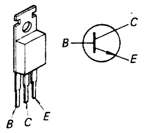


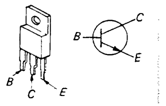
Q609, 659 : 2SB566A (2SA769)



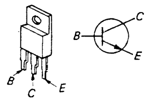


Q610, 660 : 2SD476A (2SC1827)

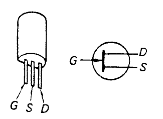




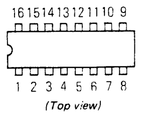
Q702: 2SC1826



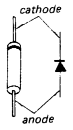
Q704: 2SK43-2



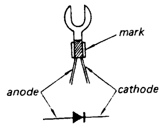
IC101: μPC1167C
IC201: HA1196
IC401: LA1240


16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
(Top view)

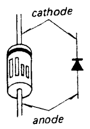
D101 106
D201, 301, 302
D701–703
} : 1S1555


cathode
anode

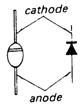
D601, 651 : SV04S


mark
anode
cathode

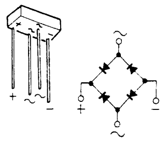
D704: EQB01-16 (EQA01-16R)
D705: EQB01-09 (EQA01-09)


cathode
anode

D801–804 : U05G (U05E)


cathode
anode

D805: SIRB10

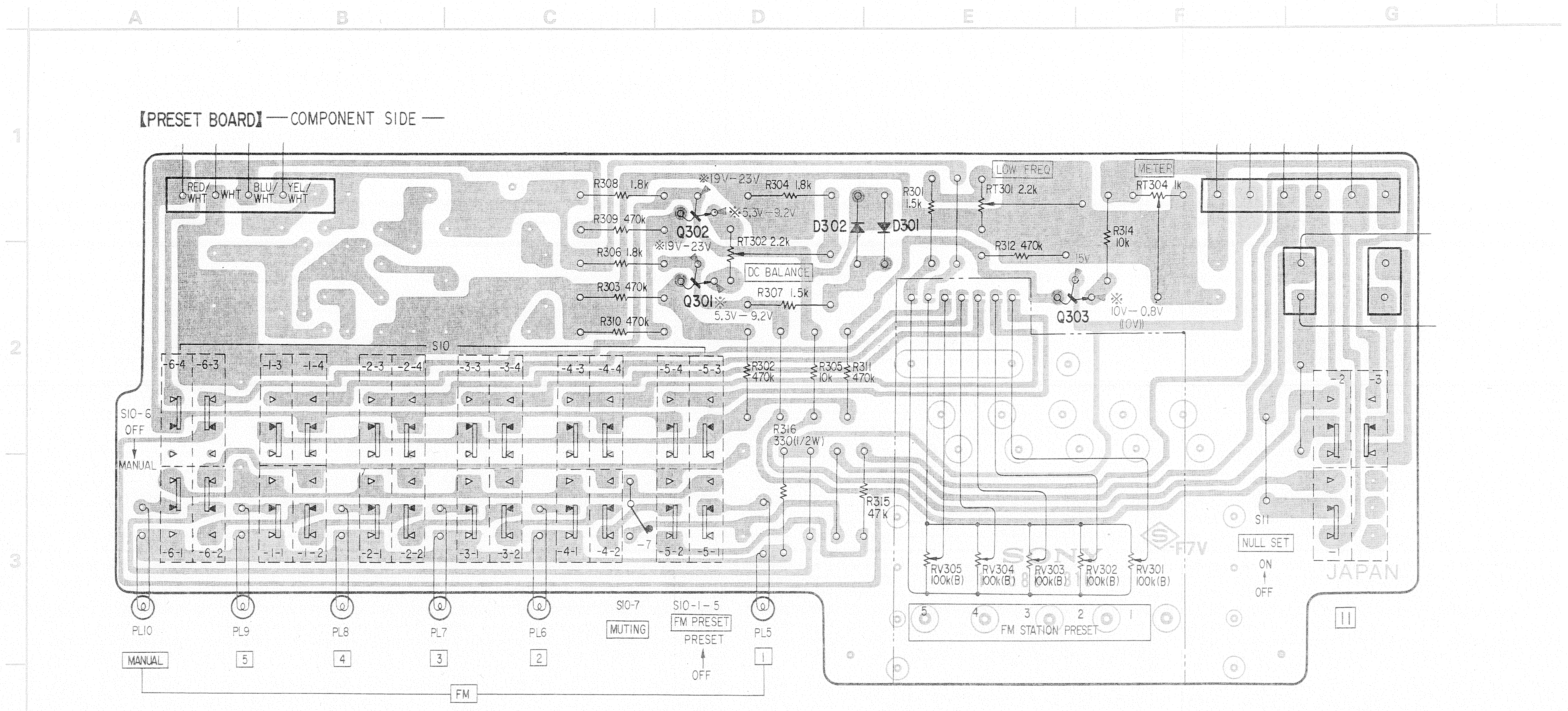


1-16R)
1-09)

5E)

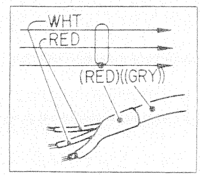
4-1. PRESET BOARD MOUNTING DIAGRAM

— Conductor Side —


A
B
C
D
E
F
G
1
2
3
【PRESET BOARD】— COMPONENT SIDE —
RED/WHT
WHT
BLU/WHT
YEL/WHT
R308 1.8k
R309 470k
R306 1.8k
R303 470k
R310 470k
※19V−23V
※5.3V−9.2V
Q302
※19V−23V
Q301※
5.3V−9.2V
R304 1.8k
RT302 2.2k
DC BALANCE
R307 1.5k
D302
D301
R301 1.5k
LOW FREQ
RT301 2.2k
R312 470k
15V
METER
RT304 1k
R314 10k
Q303
※ 10V−0.8V ((0V))
S10
-6-4
-6-3
-1-3
-1-4
-2-3
-2-4
-3-3
-3-4
-4-3
-4-4
-5-4
-5-3
S10-6
OFF
MANUAL
-6-1
-6-2
-1-1
-1-2
-2-1
-2-2
-3-1
-3-2
-4-1
-4-2
-7
-5-2
-5-1
R302 470k
R305 10k
R311 470k
R316 330(1/2W)
R315 47k
RV305 100k(B)
RV304 100k(B)
RV303 100k(B)
RV302 100k(B)
RV301 100k(B)
SONY
F7V
S11
NULL SET
ON
OFF
-2
-3
JAPAN
5
4
3
2
1
FM STATION PRESET
11
PL10
PL9
PL8
PL7
PL6
S10-7
MUTING
S10-1-5
FM PRESET
PRESET
OFF
PL5
MANUAL
5
4
3
2
1
FM

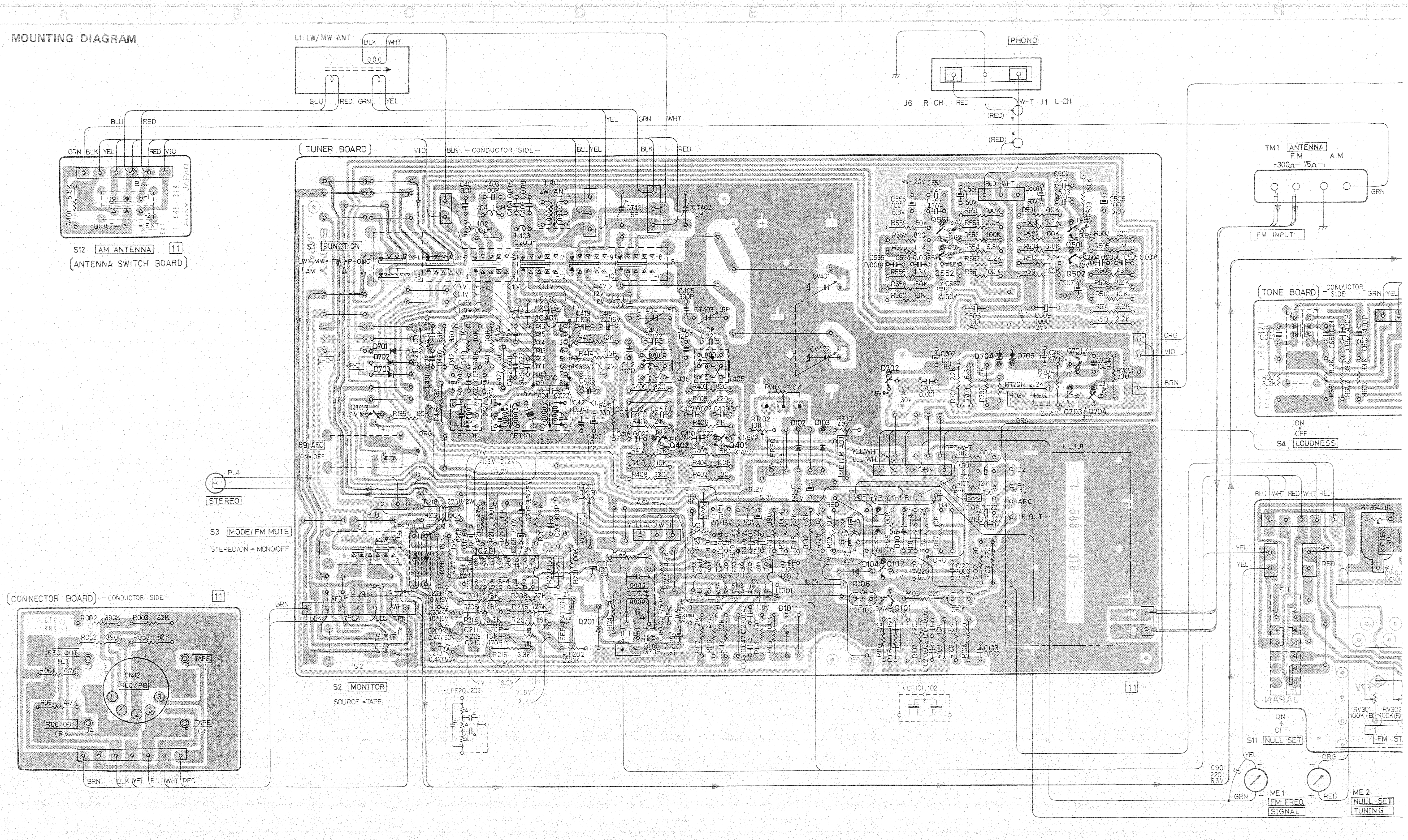
NOTE OF MOUNTING DIAGRAM

- [ ]← : indicates side identified with part number.
- Color code of sleeving over the end of the jacket.


WHT
RED
(RED)((GRY))

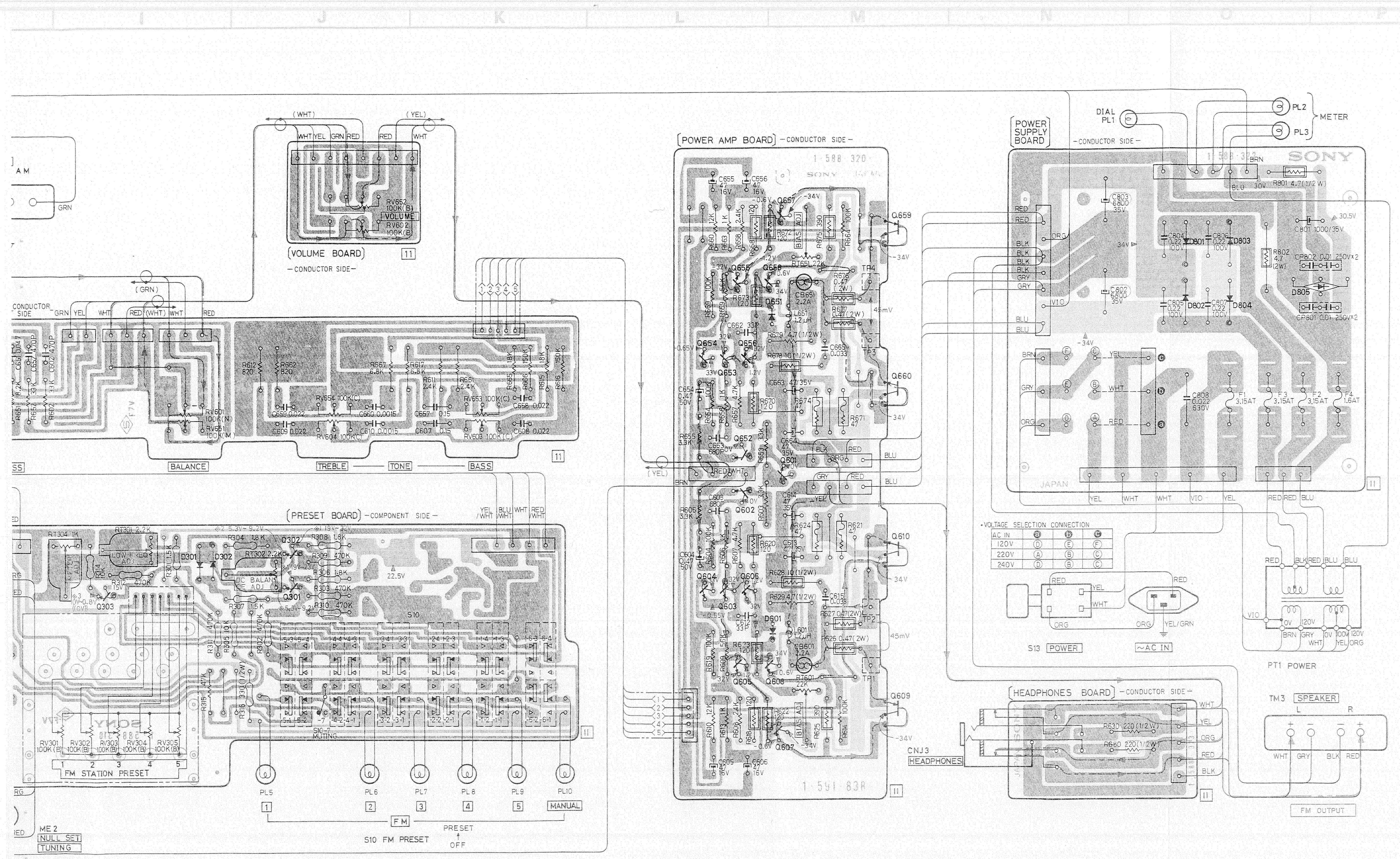
- ▨ : B + pattern
- ▨ : B − pattern
- Signal Path
  ——— – –→: L-CH
  ——— – –→: R-CH

4-2. MOUNTING DIAGRAM


A
B
C
D
E
F
G
H
L1 LW/MW ANT
PHONO
J6 R-CH
J1 L-CH
TM1 ANTENNA
FM
AM
300Ω
75Ω
FM INPUT
S12 AM ANTENNA
(ANTENNA SWITCH BOARD)
BUILT-IN → EXT
TUNER BOARD
— CONDUCTOR SIDE —
S1 FUNCTION
LW←MW←FM←PHONO
AM
IC401
IFT401
CFT401
CV401
CV402
S9 AFC
ON←OFF
PL4
STEREO
S3 MODE/FM MUTE
STEREO/ON ↔ MONO/OFF
IC201
LPF201
LPF202
VCO ADJ
SEPARATION ADJ
S2
S2 MONITOR
SOURCE→TAPE
LPF201, 202
CF101, 102
IC101
LOW FREQ ADJ
METER ADJ
HIGH FREQ ADJ
FE 101
1-588-316-
B2
B1
AFC
IF OUT
(CONNECTOR BOARD) — CONDUCTOR SIDE —
REC OUT (L)
REC OUT (R)
TAPE (L)
TAPE (R)
CNJ2 REC/PB
(TONE BOARD) CONDUCTOR SIDE
S4 LOUDNESS
ON OFF
S11 NULL SET
ON OFF
RV301 100K(B)
RV302 100K(B)
FM ST
ME1 FM FREQ SIGNAL
ME2 NULL SET TUNING
C901 220 6.3V
11

	A	B	C	D	E	F	G	H
Q IC			Q103	IC401 IC201	Q402 Q401 IC101	Q702 Q102 Q101 Q551 Q552	Q501 Q502 Q701 Q703 Q704	
D			D701 D702 D703	D201	D102 D103 D101	D106 D104 D105 D704 D705		

Q IC	
D	


I
J
K
L
M
N
O
P
1
2
3
4
5
AM
GRN
(WHT)
(YEL)
VOLUME BOARD
— CONDUCTOR SIDE —
RV652 100K(B)
VOLUME
RV602 100K(B)
(GRN)
CONDUCTOR SIDE
BALANCE
TREBLE
TONE
BASS
RV601 100K(N)
RV651 100K(M)
RV654 100K(C)
RV604 100K(C)
RV653 100K(C)
RV603 100K(C)
PRESET BOARD — COMPONENT SIDE —
RT304 1K
RT301 2.2K
LOW FREQ ADJ
RT302 2.2K
DC BALANCE ADJ
Q301
Q302
Q303
D301
D302
22.5V
S10
S10-7 MUTING
RV301 100K(B)
RV302 100K(B)
RV303 100K(B)
RV304 100K(B)
RV305 100K(B)
FM STATION PRESET
PL5
PL6
PL7
PL8
PL9
PL10
MANUAL
FM
PRESET
OFF
S10 FM PRESET
ME2
NULL SET
TUNING
POWER AMP BOARD — CONDUCTOR SIDE —
1-588-320
1-591-838
Q651
Q652
Q653
Q654
Q655
Q656
Q657
Q658
Q659
Q660
Q601
Q602
Q603
Q604
Q605
Q606
Q607
Q608
Q609
Q610
TP1
TP2
TP3
TP4
45mV
-34V
BIAS ADJ
POWER SUPPLY BOARD
— CONDUCTOR SIDE —
SONY
JAPAN
DIAL PL1
PL2
PL3
METER
R801 4.7(1/2W)
C801 1000/35V
C802 6800 35V
C803 6800 35V
D801
D802
D803
D804
D805
CP801 0.01 250V×2
CP802 0.01 250V×2
F1 3.15AT
F2 3.15AT
F3 3.15AT
F4 1.6AT
S13 POWER
~AC IN
YEL/GRN
PT1 POWER
TM3 SPEAKER
L
R
HEADPHONES BOARD — CONDUCTOR SIDE —
R630 220(1/2W)
R680 220(1/2W)
CNJ3 HEADPHONES
FM OUTPUT

• VOLTAGE SELECTION CONNECTION

AC IN	ⓐ	ⓑ	ⓒ
120V	Ⓓ	Ⓔ	Ⓕ
220V	Ⓐ	Ⓑ	Ⓒ
240V	Ⓓ	Ⓑ	Ⓒ

Q IC	Q303	Q302 Q301
D	D301 D302	

Q IC	Q655 Q658 Q657 Q654 Q653 Q656 Q652 Q601 Q602 Q604 Q603 Q606 Q605 Q608 Q607	Q659 Q660 Q610 Q609			
D	D651 D601		D801 D802	D803 D804	D805

NOTE OF SCHEMATIC DIAGRAM

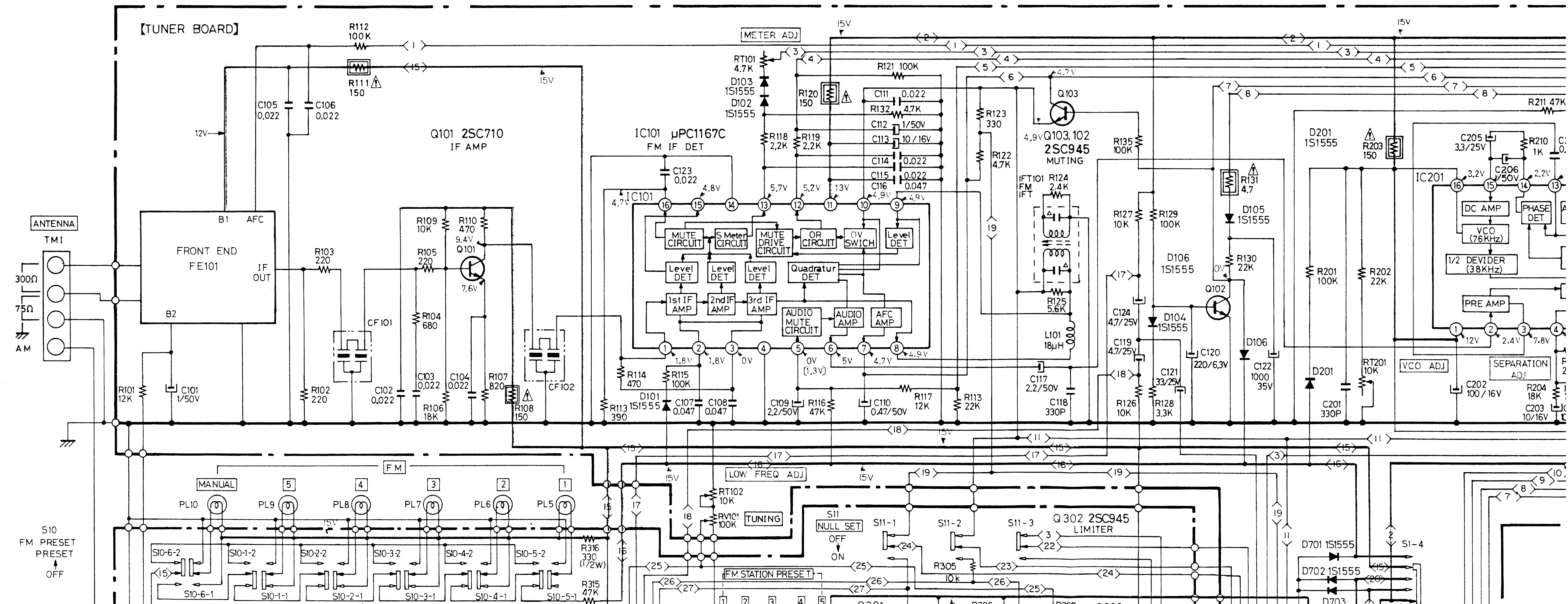
- All capacitors are in μF unless otherwise noted. pF : μμF 50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼ W unless otherwise noted. kΩ : 1000 Ω; MΩ : 1000 kΩ
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- ▭ : panel designation.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (20kΩ/V).
  - no mark: FM MONO 〚 〛: FM STEREO
  - < > : AM 〔 〕: FM MUTING ON
  - ≪ ≫ : MW (( )) : MANUAL
  - ( ) : LW
- ※ : fMIN – fMAX

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

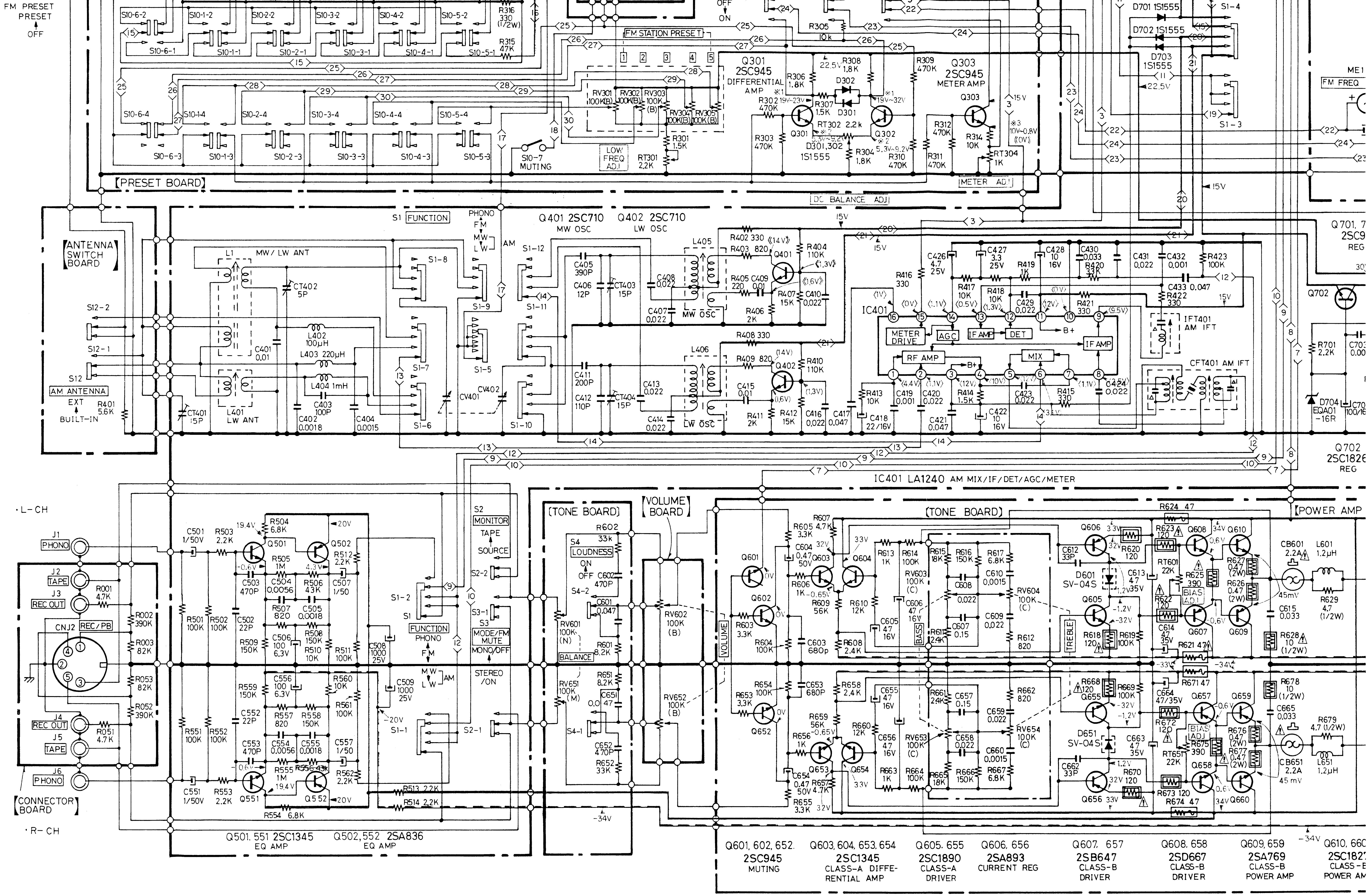
- ▭ : adjustment for repair.
- ——— : B+ bus.
- – – – : B– bus.
- Switch

Ref. No.	Switch	Position
S1	FUNCTION	FM
S2	MONITOR	SOURCE
S3	MODE/FM MUTE	STEREO/ON
S4	LOUDNESS	OFF
S9	AFC	ON
S10	FM/1–5, MANUAL	MANUAL
S11	NULL SET	OFF
S12	AM ANTENNA	BUILT IN
S13	POWER	OFF

4-3. SCHEMATIC DIAGRAM



【TUNER BOARD】
ANTENNA
TMI
300Ω
75Ω
AM
FRONT END
FE101
B1
AFC
B2
IF OUT
12V
R112 100K
R111 150
15V
C105 0.022
C106 0.022
Q101 2SC710
IF AMP
R103 220
R109 10K
R110 470
R105 220
R104 680
CF101
CF102
C103 0.022
C104 0.022
R106 18K
R107 820
R108 150
C101 1/50V
R101 12K
R102 220
C102 0.022
IC101 μPC1167C
FM IF DET
C123 0.022
MUTE CIRCUIT
S Meter CIRCUIT
MUTE DRIVE CIRCUIT
OR CIRCUIT
OV SWICH
Level DET
Quadratur DET
1st IF AMP
2nd IF AMP
3rd IF AMP
AUDIO MUTE CIRCUIT
AUDIO AMP
AFC AMP
METER ADJ
RT101 4.7K
D103 1S1555
D102 1S1555
R118 2.2K
R119 2.2K
R120 150
R121 100K
C111 0.022
R132 4.7K
C112 1/50V
C113 10/16V
C114 0.022
C115 0.022
C116 0.047
R114 470
R115 100K
D101 1S1555
R113 390
C107 0.047
C108 0.047
C109 2.2/50V
R116 47K
C110 0.47/50V
R117 12K
R113 22K
R123 330
R122 4.7K
Q103
Q103, 102 2SC945
MUTING
IFT101 FM IFT
R124 2.4K
R125 5.6K
L101 18μH
C117 2.2/50V
C118 330P
R135 100K
R127 10K
R129 100K
R131 4.7
D105 1S1555
D106 1S1555
R130 22K
Q102
C124 4.7/25V
D104 1S1555
C119 4.7/25V
C121 33/25V
C120 220/6.3V
C122 1000 35V
R126 10K
R128 3.3K
D201 1S1555
R203 150
IC201
DC AMP
VCO (76KHz)
PHASE DET
1/2 DEVIDER (38KHz)
PRE AMP
C205 3.3/25V
R210 1K
C206 1/50V
R211 47K
R201 100K
R202 22K
RT201 10K
VCO ADJ
SEPARATION ADJ
C201 330P
C202 100/16V
R204 18K
C203 10/16V
FM
MANUAL
PL10 PL9 PL8 PL7 PL6 PL5
S10 FM PRESET PRESET OFF
S10-6-2 S10-1-2 S10-2-2 S10-3-2 S10-4-2 S10-5-2
S10-6-1 S10-1-1 S10-2-1 S10-3-1 S10-4-1 S10-5-1
R316 330 (1/2W)
R315 47K
LOW FREQ ADJ
RT102 10K
RV101 100K
TUNING
S11 NULL SET OFF ON
S11-1 S11-2 S11-3
Q302 2SC945 LIMITER
R305 10k
FM STATION PRESET
D701 1S1555
D702 1S1555
D703
S1-4


FM PRESET
PRESET
OFF
ON
FM STATION PRESET
S10-6-2
S10-1-2
S10-2-2
S10-3-2
S10-4-2
S10-5-2
S10-6-1
S10-1-1
S10-2-1
S10-3-1
S10-4-1
S10-5-1
S10-6-4
S10-1-4
S10-2-4
S10-3-4
S10-4-4
S10-5-4
S10-6-3
S10-1-3
S10-2-3
S10-3-3
S10-4-3
S10-5-3
S10-7
MUTING
R316 330 (1/2W)
R315 47K
RV301 100K(B)
RV302 100K(B)
RV303 100K (B)
RV304 100K(B)
RV305 100K(B)
LOW FREQ ADJ
RT301 2.2K
R301 1.5K
Q301 2SC945 DIFFERENTIAL AMP
Q303 2SC945 METER AMP
R305 10k
R306 1.8K
R307 1.5K
R308 1.8K
D302
D301
RT302 2.2k
D301,302 1S1555
R302 470K
R303 470K
R304 1.8K
R309 470K
R310 470K
R311 470K
R312 470K
R314 10K
RT304 1K
METER ADJ
DC BALANCE ADJ
PRESET BOARD
D701 1S1555
D702 1S1555
D703 1S1555
S1-4
S1-3
FM FREQ
ME1
ANTENNA SWITCH BOARD
S12-2
S12-1
S12
AM ANTENNA
EXT
BUILT-IN
R401 5.6K
CT401 15P
L1 MW/LW ANT
L401 LW ANT
CT402 5P
L402 100μH
L403 220μH
L404 1mH
C401 0.01
C402 0.0018
C403 100P
C404 0.0015
S1 FUNCTION
PHONO
FM
MW
LW
AM
S1-8
S1-9
S1-7
S1-5
S1-6
S1-12
S1-11
S1-10
CV401
CV402
Q401 2SC710 MW OSC
Q402 2SC710 LW OSC
C405 390P
C406 12P
CT403 15P
C408 0.022
C407 0.022
MW OSC
L405
R402 330
R403 820
R404 110K
R405 220
C409 0.01
R406 2K
R407 15K
C410 0.022
C411 200P
C412 110P
CT404 15P
C413 0.022
C414 0.022
LW OSC
L406
R408 330
R409 820
R410 110K
C415 0.01
R411 2K
R412 15K
C416 0.022
C417 0.047
C418 22/16V
IC401
METER DRIVE
AGC
IF AMP
DET
RF AMP
MIX
IF AMP
B+
C426 4.7 25V
C427 3.3 25V
C428 10 16V
C430 0.033
R419 1K
R420 33K
C431 0.022
C432 0.001
R423 100K
C433 0.047
R416 330
R417 10K
R418 10K
C429 0.022
R421 330
R422 330
IFT401 AM IFT
CFT401 AM IFT
R413 10K
C419 0.001
C420 0.022
R414 1.5K
C421 0.047
C422 10 16V
C423 0.022
R415 330
C424 0.022
Q701, 7
2SC9
REG
Q702
R701 2.2K
D704 EQA01-16R
Q702 2SC1826 REG
IC401 LA1240 AM MIX/IF/DET/AGC/METER
L-CH
R-CH
J1 PHONO
J2 TAPE
J3 REC OUT
J4 REC OUT
J5 TAPE
J6 PHONO
CNJ2 REC/PB
R001 4.7K
R002 390K
R003 82K
R053 82K
R052 390K
R051 4.7K
CONNECTOR BOARD
C501 1/50V
R503 2.2K
Q501
Q502
R504 6.8K
R505 1M
R506 43K
C503 470P
C504 0.0056
C507 1/50
R512 2.2K
R501 100K
R502 100K
C502 22P
R507 820
C505 0.0018
R509 150K
C506 100 6.3V
R508 150K
R510 10K
R511 100K
C508 1000 25V
C509 1000 25V
R559 150K
C556 100 6.3V
R560 10K
R561 100K
C552 22P
R557 820
R558 150K
R551 100K
R552 100K
C553 470P
C554 0.0056
C555 0.0018
C557 1/50
R555 1M
R556 43K
R562 2.2K
C551 1/50V
R553 2.2K
Q551
Q552
R554 6.8K
R513 2.2K
R514 2.2K
Q501, 551 2SC1345 EQ AMP
Q502, 552 2SA836 EQ AMP
S2 MONITOR
TAPE
SOURCE
S2-2
S2-1
S1-2
S1-1
S1 FUNCTION PHONO FM MW LW AM
S3-1
S3 MODE/FM MUTE
MONO/OFF
STEREO /ON
TONE BOARD
S4 LOUDNESS
ON
OFF
S4-2
S4-1
R602 33k
C602 470P
C601 0.047
RV601 100K (N)
BALANCE
R601 8.2K
RV651 100K (M)
R651 8.2K
C651 0.047
C652 470P
R652 33K
VOLUME BOARD
RV602 100K (B)
RV652 100K (B)
VOLUME
TONE BOARD
Q601
Q602
Q603
Q604
Q652
Q653
Q654
R603 3.3K
R604 100K
R605 3.3K
R606 1K
R607 4.7K
C604 0.47 50V
C603 680p
R609 56K
R610 12K
R613 1K
R614 100K
R615 18K
R616 150K
R617 6.8K
RV603 100K (C)
C606 47 16V
C605 47 16V
C608 0.022
C607 0.15
C610 0.0015
C609 0.022
RV604 100K (C)
R608 2.4K
R611 24K
R612 820
BASS
TREBLE
R653 3.3K
R654 100K
C653 680P
R658 2.4K
C655 47 16V
R661 24K
C657 0.15
R662 820
R659 56K
R656 1K
R660 12K
C656 47 16V
RV653 100K (C)
C658 0.022
C659 0.022
RV654 100K (C)
C660 0.0015
C654 0.47 50V
R657 4.7K
R655 3.3K
R663 1K
R664 100K
R665 18K
R666 150K
R667 6.8K
POWER AMP
Q605
Q606
Q607
Q608
Q609
Q610
Q655
Q656
Q657
Q658
Q659
Q660
R624 47
R623 120
R620 120
C612 33P
D601 SV-04S
C613 47 35V
RT601 22K
BIAS ADJ
R625 390
R627 0.47 (2W)
R626 0.47 (2W)
R622 120
C614 47 35V
R618 120
R619 100K
R621 47
R628 10 (1/2W)
C615 0.033
R629 4.7 (1/2W)
CB601 2.2A
L601 1.2μH
R668 120
R669 100K
R671 47
C664 47/35V
R672 120
R675 390
R676 0.47 (2W)
R677 0.47 (2W)
R678 10 (1/2W)
C665 0.033
R679 4.7 (1/2W)
D651 SV-04S
C663 47 35V
RT651 22K
C662 33P
R670 120
R673 120
R674 47
CB651 2.2A
L651 1.2μH
-34V
Q601, 602, 652, 2SC945 MUTING
Q603, 604, 653, 654 2SC1345 CLASS-A DIFFERENTIAL AMP
Q605, 655 2SC1890 CLASS-A DRIVER
Q606, 656 2SA893 CURRENT REG
Q607, 657 2SB647 CLASS-B DRIVER
Q608, 658 2SD667 CLASS-B DRIVER
Q609, 659 2SA769 CLASS-B POWER AMP
Q610, 660 2SC1827 CLASS-B POWER AMP

NOTE OF SCHEMATIC DIAGRAM

- All capacitors are in µF unless otherwise noted. pF : µµF 50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼ W unless otherwise noted. kΩ : 1000 Ω; MΩ : 1000 kΩ
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- ▭ : panel designation.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (20kΩ/V).

no mark: FM MONO
< > : AM
≪ ≫ : MW
( ) : LW
〚 〛: FM STEREO
〔 〕: FM MUTING ON
(( )) : MANUAL

- ※ : fMIN – fMAX

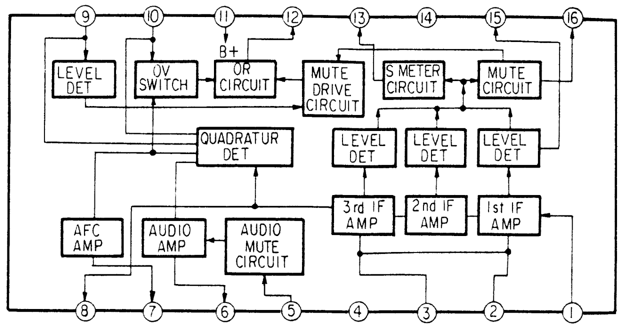
> Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- ▭ : adjustment for repair.
- ——— : B+ bus.
- – – – : B– bus.
- Switch

Ref. No.	Switch	Position
S1	FUNCTION	FM
S2	MONITOR	SOURCE
S3	MODE/FM MUTE	STEREO/ON
S4	LOUDNESS	OFF
S9	AFC	ON
S10	FM/1–5, MANUAL	MANUAL
S11	NULL SET	OFF
S12	AM ANTENNA	BUILT IN
S13	POWER	OFF

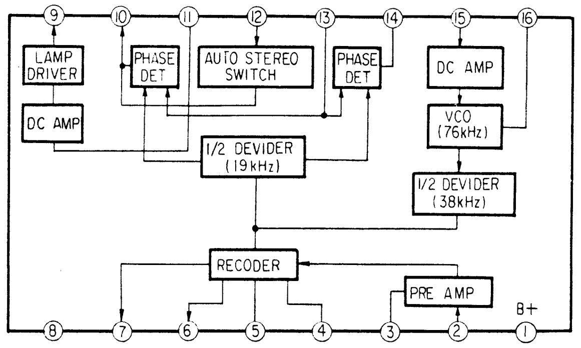
- IC Block Diagrams

.IC101 µPC1167C



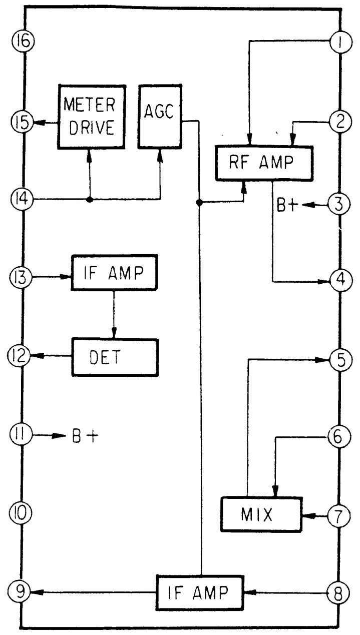
9
10
11
12
13
14
15
16
B+
LEVEL DET
0V SWITCH
OR CIRCUIT
MUTE DRIVE CIRCUIT
S METER CIRCUIT
MUTE CIRCUIT
QUADRATUR DET
LEVEL DET
LEVEL DET
LEVEL DET
3rd IF AMP
2nd IF AMP
1st IF AMP
AFC AMP
AUDIO AMP
AUDIO MUTE CIRCUIT
8
7
6
5
4
3
2
1

·IC201 HA1196

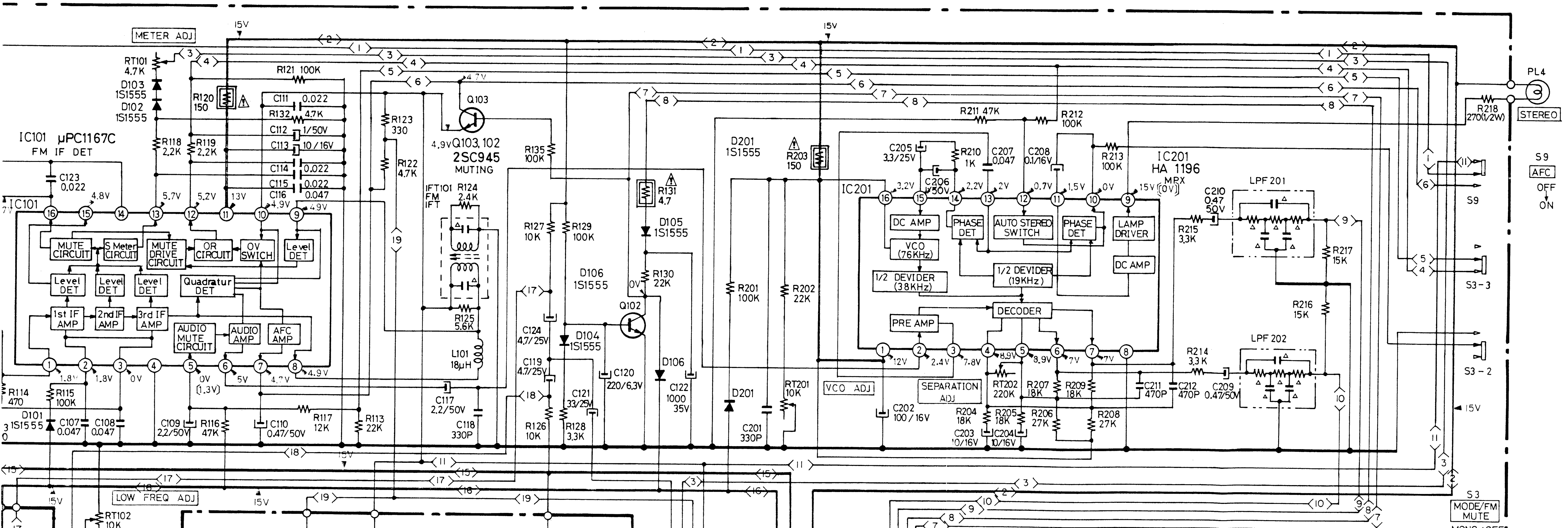


9
10
11
12
13
14
15
16
LAMP DRIVER
DC AMP
PHASE DET
AUTO STEREO SWITCH
PHASE DET
DC AMP
VCO (76kHz)
1/2 DEVIDER (19kHz)
1/2 DEVIDER (38kHz)
RECODER
PRE AMP
B+
8
7
6
5
4
3
2
1

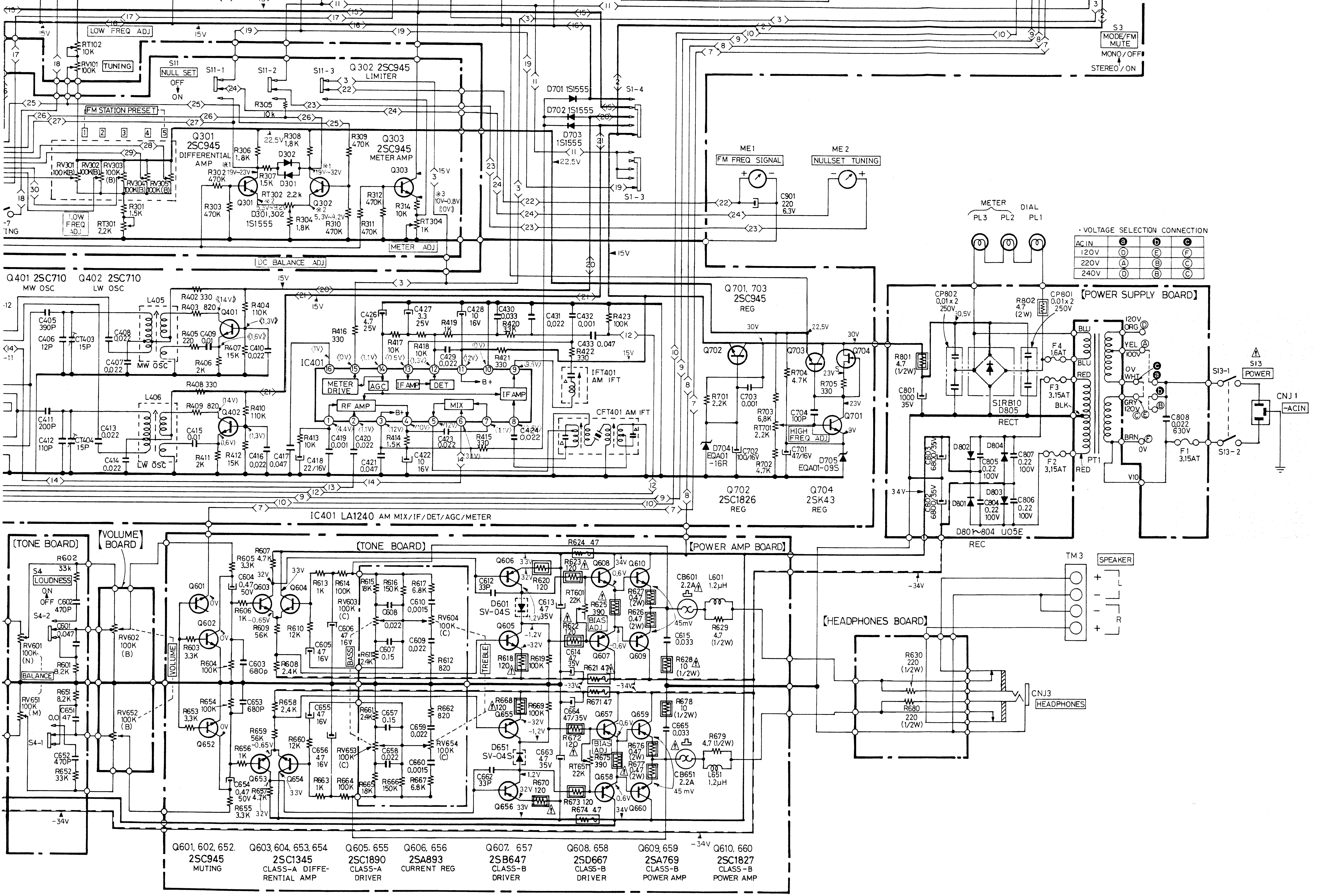
·IC401 LA1240



16
15
14
13
12
11
10
9
METER DRIVE
AGC
RF AMP
B+
IF AMP
DET
B+
MIX
IF AMP
1
2
3
4
5
6
7
8

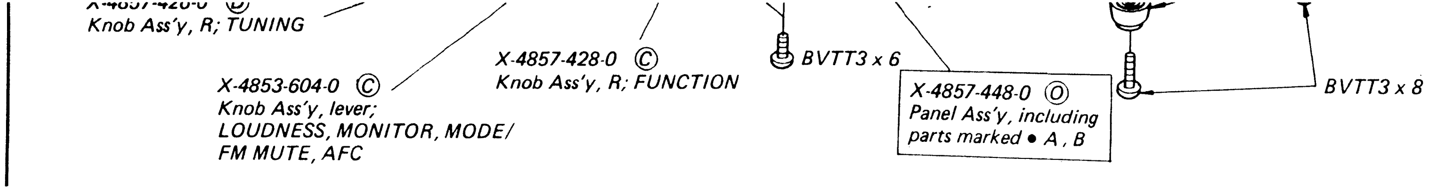


METER ADJ
15V
RT101 4.7K
D103 1S1555
D102 1S1555
R120 150
R121 100K
C111 0.022
R132 4.7K
C112 1/50V
C113 10/16V
C114 0.022
C115 0.022
C116 0.047
R118 2.2K
R119 2.2K
IC101 µPC1167C
FM IF DET
C123 0.022
4.8V
5.7V
5.2V
13V
4.9V
4.9V
MUTE CIRCUIT
S Meter CIRCUIT
MUTE DRIVE CIRCUIT
OR CIRCUIT
OV SWICH
Level DET
Level DET
Level DET
Level DET
Quadratur DET
1st IF AMP
2nd IF AMP
3rd IF AMP
AUDIO MUTE CIRCUIT
AUDIO AMP
AFC AMP
1.8V
1.8V
0V
0V (1.3V)
5V
4.7V
4.9V
R114 470
R115 100K
D101 1S1555
C107 0.047
C108 0.047
C109 2.2/50V
R116 47K
C110 0.47/50V
R117 12K
R113 22K
R123 330
R122 4.7K
Q103
4.9V Q103, 102
2SC945
MUTING
4.7V
IFT101 FM IFT
R124 2.4K
R125 5.6K
L101 18µH
C117 2.2/50V
C118 330P
R135 100K
R127 10K
R129 100K
C124 4.7/25V
C119 4.7/25V
D104 1S1555
C121 33/25V
R126 10K
R128 3.3K
D106 1S1555
C120 220/6.3V
Q102
0V
R131 4.7
D105 1S1555
R130 22K
D106
C122 1000 35V
D201 1S1555
R201 100K
D201
C201 330P
R203 150
R202 22K
RT201 10K
VCO ADJ
LOW FREQ ADJ
RT102 10K
15V
R211 47K
R212 100K
R213 100K
C205 3.3/25V
R210 1K
C207 0.047
C208 0.1/16V
C206 1/50V
IC201
HA 1196
MPX
3.2V
2.2V
2V
0.7V
1.5V
0V
15V 〚0V〛
DC AMP
VCO (76KHz)
1/2 DEVIDER (38KHz)
PHASE DET
AUTO STEREO SWITCH
PHASE DET
LAMP DRIVER
DC AMP
1/2 DEVIDER (19KHz)
DECODER
PRE AMP
12V
2.4V
7.8V
8.9V
8.9V
7V
7V
SEPARATION ADJ
C202 100/16V
RT202 220K
R204 18K
R205 18K
R207 18K
R209 18K
R206 27K
R208 27K
C203 10/16V
C204 10/16V
C210 0.47 50V
R215 3.3K
LPF 201
R217 15K
R216 15K
LPF 202
R214 3.3K
C211 470P
C212 470P
C209 0.47/50V
PL4
R218 270(1/2W)
STEREO
S9
AFC
OFF
ON
S9
S3-3
S3-2
15V
S3
MODE/FM MUTE


LOW FREQ ADJ
TUNING
RT102 10K
RV101 100K
S11 NULL SET
OFF
ON
S11-1
S11-2
S11-3
Q302 2SC945 LIMITER
FM STATION PRESET
R305 10k
Q301 2SC945 DIFFERENTIAL AMP
Q303 2SC945 METER AMP
D302
D301
D301,302 1S1555
RT302 2.2k
RT304 1K
METER ADJ
DC BALANCE ADJ
RT301 2.2K
LOW FREQ ADJ
RV301 100K(B)
RV302 100K(B)
RV303 100K (B)
RV304 100K(B)
RV305 100K(B)
D701 1S1555
D702 1S1555
D703 1S1555
S1-4
S1-3
ME1 FM FREQ SIGNAL
ME2 NULLSET TUNING
C901 220 6.3V
METER
DIAL
PL3
PL2
PL1
S3 MODE/FM MUTE
MONO/OFF
STEREO/ON
Q401 2SC710 MW OSC
Q402 2SC710 LW OSC
L405
L406
MW OSC
LW OSC
IC401
METER DRIVE
AGC
IF AMP
DET
RF AMP
MIX
IF AMP
IFT401 AM IFT
CFT401 AM IFT
IC401 LA1240 AM MIX/IF/DET/AGC/METER
Q701, 703 2SC945 REG
Q702
Q703
Q704
Q701
HIGH FREQ ADJ
RT701 2.2K
D704 EQA01-16R
D705 EQA01-09S
Q702 2SC1826 REG
Q704 2SK43 REG
【POWER SUPPLY BOARD】
CP802 0.01x2 250V
CP801 0.01x2 250V
R802 4.7 (2W)
R801 4.7 (1/2W)
C801 1000 35V
S1RB10 D805
RECT
F4 1.6AT
F3 3.15AT
F2 3.15AT
F1 3.15AT
BLU
RED
BLK
BRN
ORG
YEL
WHT
GRY
PT1
C808 0.022 630V
S13 POWER
S13-1
S13-2
CNJ1 ~ACIN
C803 6800/35V
C802 6800/35V
D801~804 U05E REC
D802
D804
D803
D801
V10
【TONE BOARD】
【VOLUME BOARD】
【POWER AMP BOARD】
【HEADPHONES BOARD】
S4 LOUDNESS
S4-2
S4-1
BALANCE
RV601 100K (N)
RV651 100K (M)
RV602 100K (B)
RV652 100K (B)
VOLUME
BASS
TREBLE
RV603 100K (C)
RV604 100K (C)
RV653 100K (C)
RV654 100K (C)
D601 SV-04S
D651 SV-04S
BIAS ADJ
RT601 22K
RT651 22K
CB601 2.2A
CB651 2.2A
L601 1.2μH
L651 1.2μH
TM3 SPEAKER
L
R
CNJ3 HEADPHONES
R630 220 (1/2W)
R680 220 (1/2W)
-34V
Q601, 602, 652. 2SC945 MUTING
Q603, 604, 653, 654 2SC1345 CLASS-A DIFFERENTIAL AMP
Q605, 655 2SC1890 CLASS-A DRIVER
Q606, 656 2SA893 CURRENT REG
Q607, 657 2SB647 CLASS-B DRIVER
Q608, 658 2SD667 CLASS-B DRIVER
Q609, 659 2SA769 CLASS-B POWER AMP
Q610, 660 2SC1827 CLASS-B POWER AMP

· VOLTAGE SELECTION CONNECTION

ACIN	ⓐ	ⓑ	ⓒ
120V	Ⓓ	Ⓔ	Ⓕ
220V	Ⓐ	Ⓑ	Ⓒ
240V	Ⓓ	Ⓑ	Ⓒ

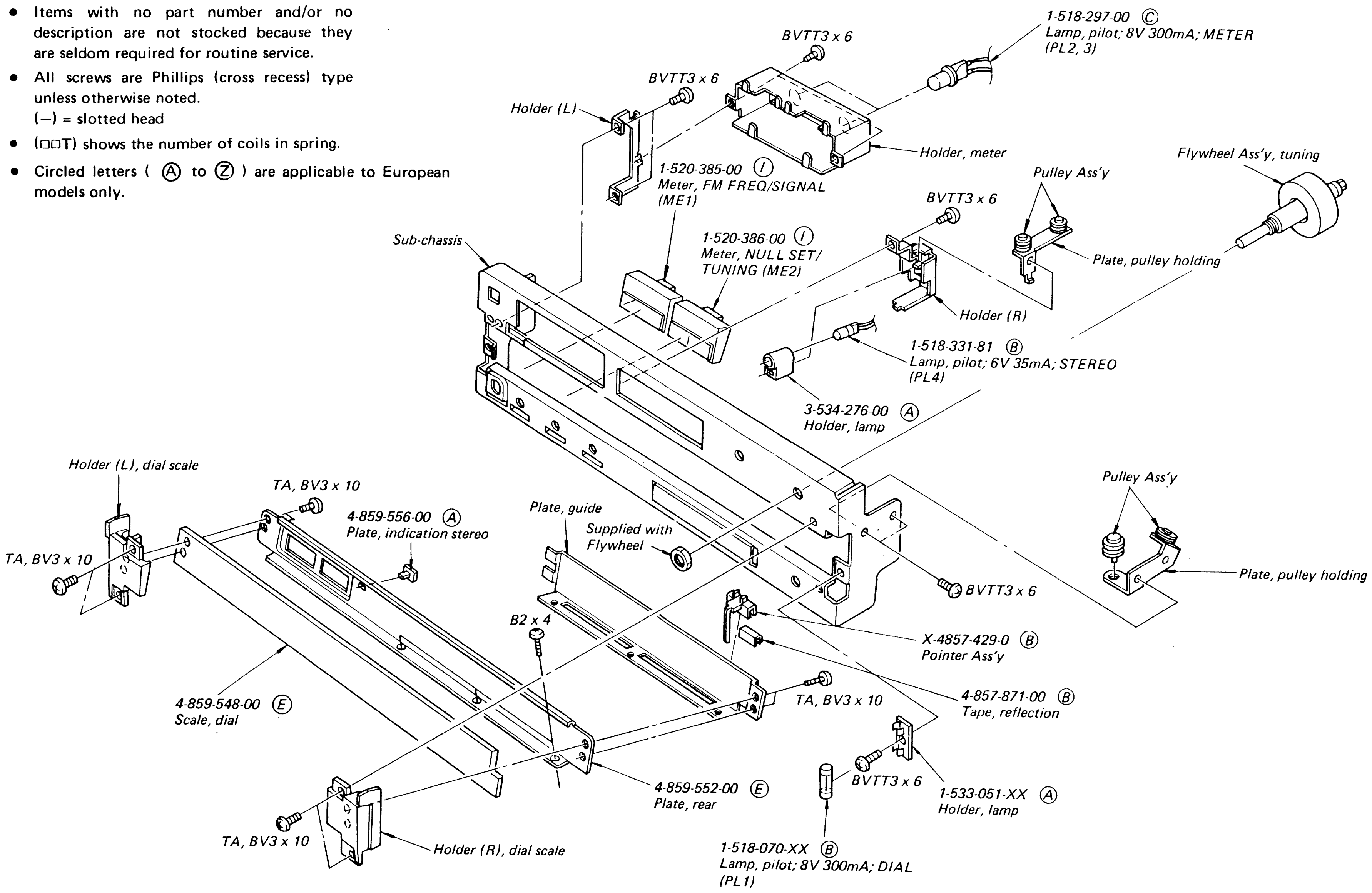


Knob Ass'y, R; TUNING
X-4853-604-0 Ⓒ
Knob Ass'y, lever;
LOUDNESS, MONITOR, MODE/
FM MUTE, AFC
X-4857-428-0 Ⓒ
Knob Ass'y, R; FUNCTION
BVTT3 x 6
X-4857-448-0 Ⓞ
Panel Ass'y, including
parts marked • A, B
BVTT3 x 8

(2)

Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- (□□T) shows the number of coils in spring.
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

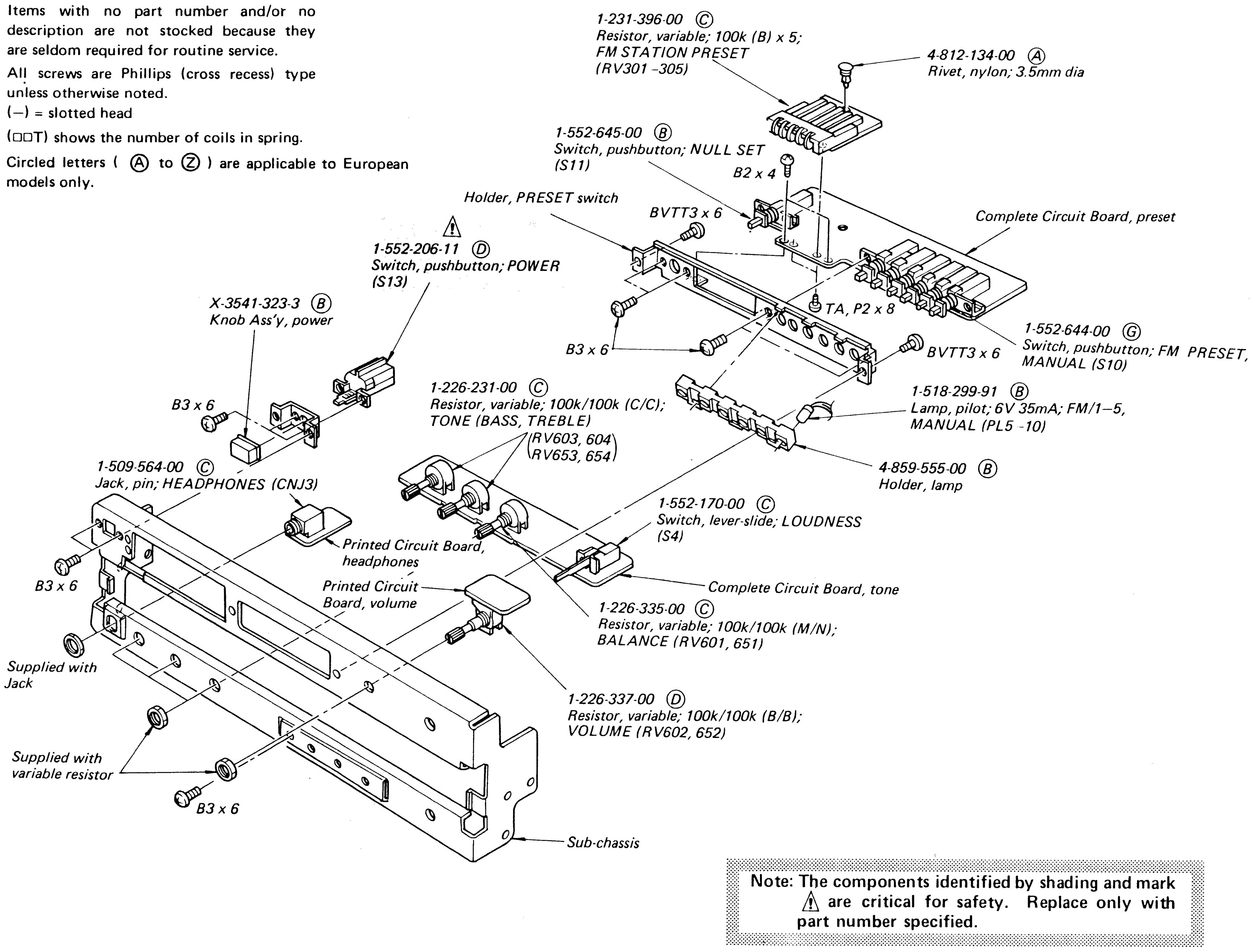


1-518-297-00 Ⓒ
Lamp, pilot; 8V 300mA; METER
(PL2, 3)
BVTT3 x 6
BVTT3 x 6
Holder (L)
Holder, meter
Flywheel Ass'y, tuning
Pulley Ass'y
1-520-385-00 Ⓘ
Meter, FM FREQ/SIGNAL
(ME1)
BVTT3 x 6
Sub-chassis
1-520-386-00 Ⓘ
Meter, NULL SET/
TUNING (ME2)
Plate, pulley holding
Holder (R)
1-518-331-81 Ⓑ
Lamp, pilot; 6V 35mA; STEREO
(PL4)
3-534-276-00 Ⓐ
Holder, lamp
Holder (L), dial scale
TA, BV3 x 10
4-859-556-00 Ⓐ
Plate, indication stereo
Plate, guide
Supplied with
Flywheel
Pulley Ass'y
TA, BV3 x 10
BVTT3 x 6
Plate, pulley holding
B2 x 4
X-4857-429-0 Ⓑ
Pointer Ass'y
4-859-548-00 Ⓔ
Scale, dial
TA, BV3 x 10
4-857-871-00 Ⓑ
Tape, reflection
BVTT3 x 6
4-859-552-00 Ⓔ
Plate, rear
1-533-051-XX Ⓐ
Holder, lamp
TA, BV3 x 10
Holder (R), dial scale
1-518-070-XX Ⓑ
Lamp, pilot; 8V 300mA; DIAL
(PL1)

(3)

Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- (□□T) shows the number of coils in spring.
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.



1-231-396-00 Ⓒ
Resistor, variable; 100k (B) x 5;
FM STATION PRESET
(RV301 -305)
4-812-134-00 Ⓐ
Rivet, nylon; 3.5mm dia
1-552-645-00 Ⓑ
Switch, pushbutton; NULL SET
(S11)
B2 x 4
Holder, PRESET switch
BVTT3 x 6
Complete Circuit Board, preset
⚠
1-552-206-11 Ⓓ
Switch, pushbutton; POWER
(S13)
TA, P2 x 8
X-3541-323-3 Ⓑ
Knob Ass'y, power
1-552-644-00 Ⓖ
Switch, pushbutton; FM PRESET,
MANUAL (S10)
B3 x 6
BVTT3 x 6
B3 x 6
1-226-231-00 Ⓒ
Resistor, variable; 100k/100k (C/C);
TONE (BASS, TREBLE)
(RV603, 604
RV653, 654)
1-518-299-91 Ⓑ
Lamp, pilot; 6V 35mA; FM/1–5,
MANUAL (PL5 -10)
1-509-564-00 Ⓒ
Jack, pin; HEADPHONES (CNJ3)
4-859-555-00 Ⓑ
Holder, lamp
1-552-170-00 Ⓒ
Switch, lever-slide; LOUDNESS
(S4)
Printed Circuit Board,
headphones
B3 x 6
Printed Circuit
Board, volume
Complete Circuit Board, tone
1-226-335-00 Ⓒ
Resistor, variable; 100k/100k (M/N);
BALANCE (RV601, 651)
Supplied with
Jack
1-226-337-00 Ⓓ
Resistor, variable; 100k/100k (B/B);
VOLUME (RV602, 652)
Supplied with
variable resistor
B3 x 6
Sub-chassis

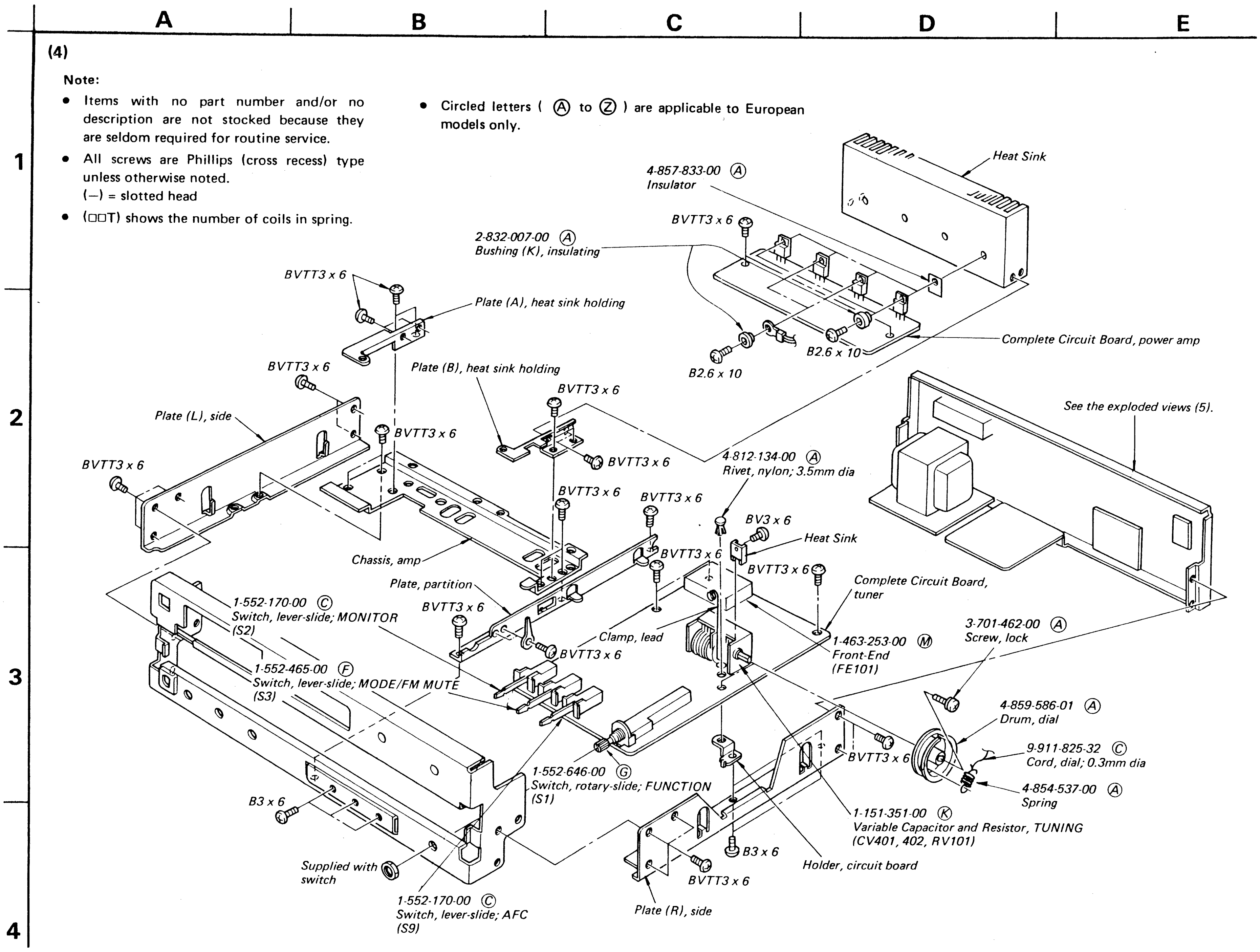
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(4)

Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- (□□T) shows the number of coils in spring.

- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

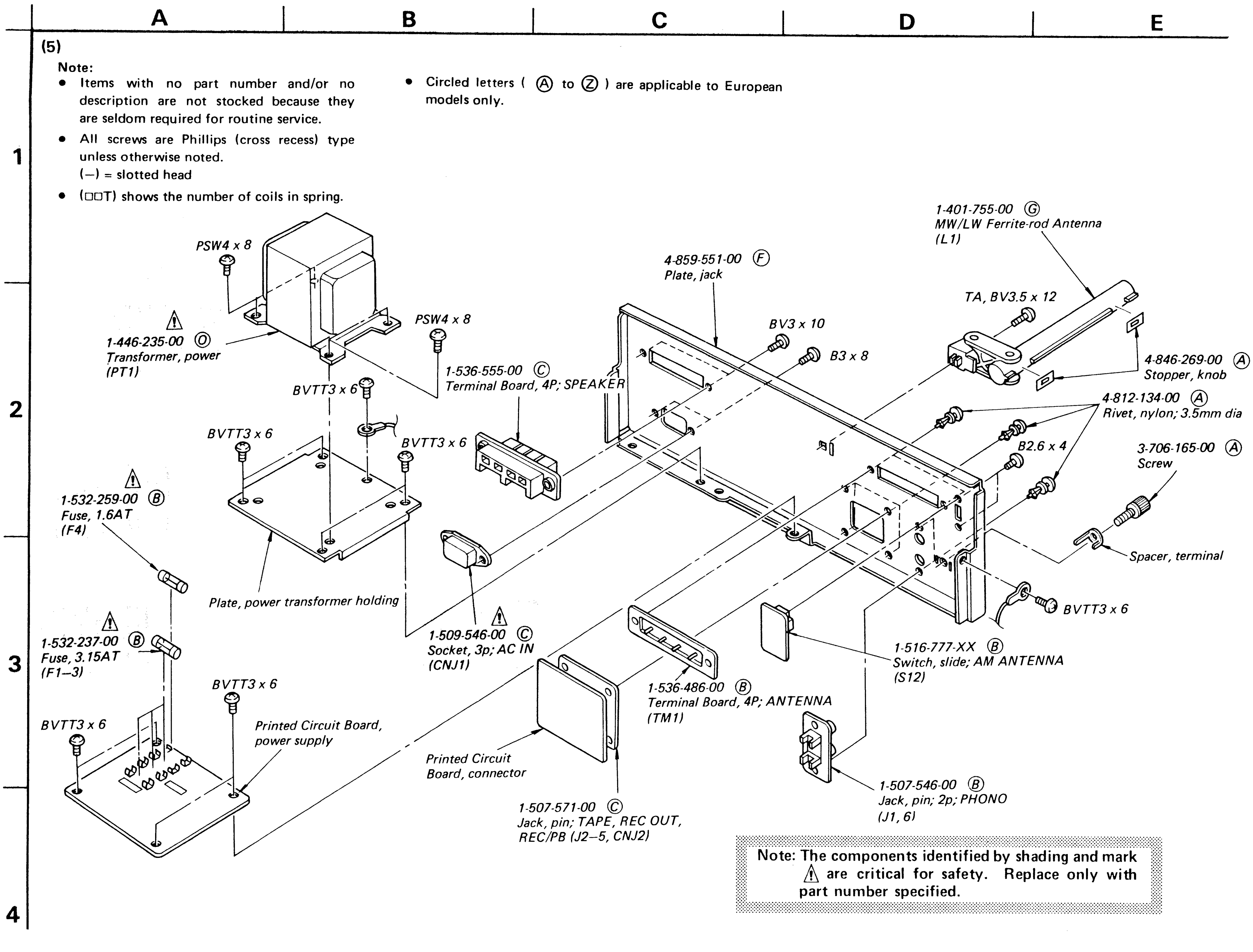

A
B
C
D
E
1
2
3
4
Heat Sink
4-857-833-00 Ⓐ
Insulator
BVTT3 x 6
2-832-007-00 Ⓐ
Bushing (K), insulating
BVTT3 x 6
Plate (A), heat sink holding
B2.6 x 10
Complete Circuit Board, power amp
BVTT3 x 6
Plate (B), heat sink holding
B2.6 x 10
BVTT3 x 6
See the exploded views (5).
Plate (L), side
BVTT3 x 6
BVTT3 x 6
BVTT3 x 6
4-812-134-00 Ⓐ
Rivet, nylon; 3.5mm dia
BVTT3 x 6
BVTT3 x 6
BVTT3 x 6
BV3 x 6
Heat Sink
Chassis, amp
BVTT3 x 6
BVTT3 x 6
Plate, partition
Complete Circuit Board, tuner
1-552-170-00 Ⓒ
Switch, lever-slide; MONITOR
(S2)
BVTT3 x 6
Clamp, lead
BVTT3 x 6
1-463-253-00 Ⓜ
Front-End
(FE101)
3-701-462-00 Ⓐ
Screw, lock
1-552-465-00 Ⓕ
Switch, lever-slide; MODE/FM MUTE
(S3)
4-859-586-01 Ⓐ
Drum, dial
BVTT3 x 6
9-911-825-32 Ⓒ
Cord, dial; 0.3mm dia
1-552-646-00 Ⓖ
Switch, rotary-slide; FUNCTION
(S1)
4-854-537-00 Ⓐ
Spring
B3 x 6
1-151-351-00 Ⓚ
Variable Capacitor and Resistor, TUNING
(CV401, 402, RV101)
B3 x 6
Supplied with switch
BVTT3 x 6
Holder, circuit board
1-552-170-00 Ⓒ
Switch, lever-slide; AFC
(S9)
Plate (R), side

(5)

Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- (□□T) shows the number of coils in spring.

- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.


A
B
C
D
E
1
2
3
4
1-401-755-00 Ⓖ
MW/LW Ferrite-rod Antenna
(L1)
PSW4 x 8
4-859-551-00 Ⓕ
Plate, jack
TA, BV3.5 x 12
⚠
1-446-235-00 Ⓞ
Transformer, power
(PT1)
PSW4 x 8
BV3 x 10
B3 x 8
4-846-269-00 Ⓐ
Stopper, knob
1-536-555-00 Ⓒ
Terminal Board, 4P; SPEAKER
BVTT3 x 6
4-812-134-00 Ⓐ
Rivet, nylon; 3.5mm dia
BVTT3 x 6
BVTT3 x 6
B2.6 x 4
3-706-165-00 Ⓐ
Screw
⚠
1-532-259-00 Ⓑ
Fuse, 1.6AT
(F4)
Spacer, terminal
Plate, power transformer holding
BVTT3 x 6
⚠
⚠
1-509-546-00 Ⓒ
Socket, 3p; AC IN
(CNJ1)
1-532-237-00 Ⓑ
Fuse, 3.15AT
(F1–3)
1-516-777-XX Ⓑ
Switch, slide; AM ANTENNA
(S12)
BVTT3 x 6
1-536-486-00 Ⓑ
Terminal Board, 4P; ANTENNA
(TM1)
BVTT3 x 6
Printed Circuit Board, power supply
Printed Circuit Board, connector
1-507-546-00 Ⓑ
Jack, pin; 2p; PHONO
(J1, 6)
1-507-571-00 Ⓒ
Jack, pin; TAPE, REC OUT, REC/PB (J2–5, CNJ2)

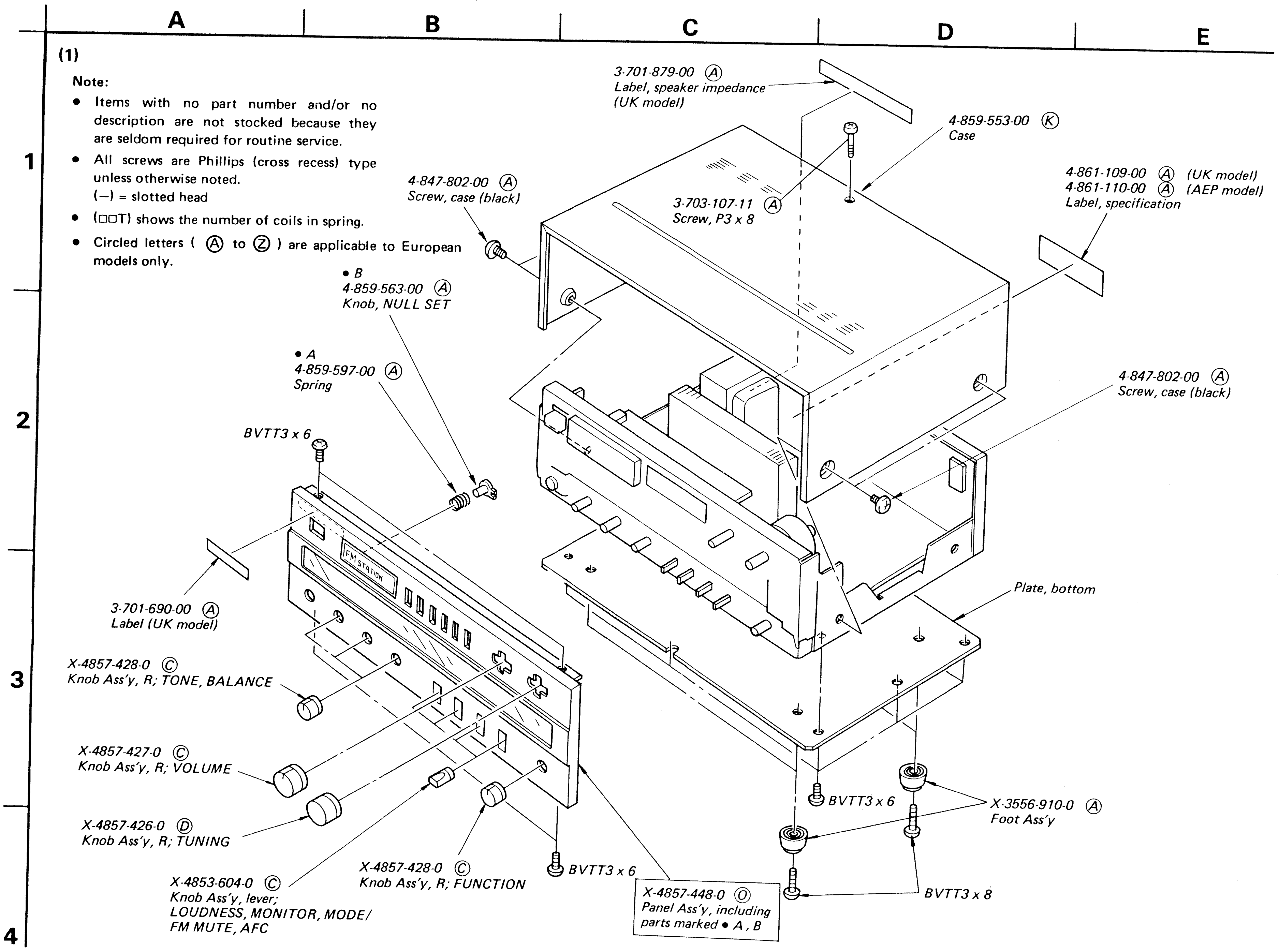
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SECTION 5
EXPLODED VIEWS

(1)

Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- (□□T) shows the number of coils in spring.
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.


A
B
C
D
E
1
2
3
4
3-701-879-00 Ⓐ
Label, speaker impedance
(UK model)
4-859-553-00 Ⓚ
Case
4-847-802-00 Ⓐ
Screw, case (black)
3-703-107-11 Ⓐ
Screw, P3 x 8
4-861-109-00 Ⓐ (UK model)
4-861-110-00 Ⓐ (AEP model)
Label, specification
• B
4-859-563-00 Ⓐ
Knob, NULL SET
• A
4-859-597-00 Ⓐ
Spring
4-847-802-00 Ⓐ
Screw, case (black)
BVTT3 x 6
FM STATION
3-701-690-00 Ⓐ
Label (UK model)
Plate, bottom
X-4857-428-0 Ⓒ
Knob Ass'y, R; TONE, BALANCE
X-4857-427-0 Ⓒ
Knob Ass'y, R; VOLUME
X-4857-426-0 Ⓓ
Knob Ass'y, R; TUNING
X-4857-428-0 Ⓒ
Knob Ass'y, R; FUNCTION
X-4853-604-0 Ⓒ
Knob Ass'y, lever;
LOUDNESS, MONITOR, MODE/
FM MUTE, AFC
BVTT3 x 6
BVTT3 x 6
X-3556-910-0 Ⓐ
Foot Ass'y
X-4857-448-0 Ⓞ
Panel Ass'y, including
parts marked • A, B
BVTT3 x 8

(2)

Note:

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  (–) = slotted head
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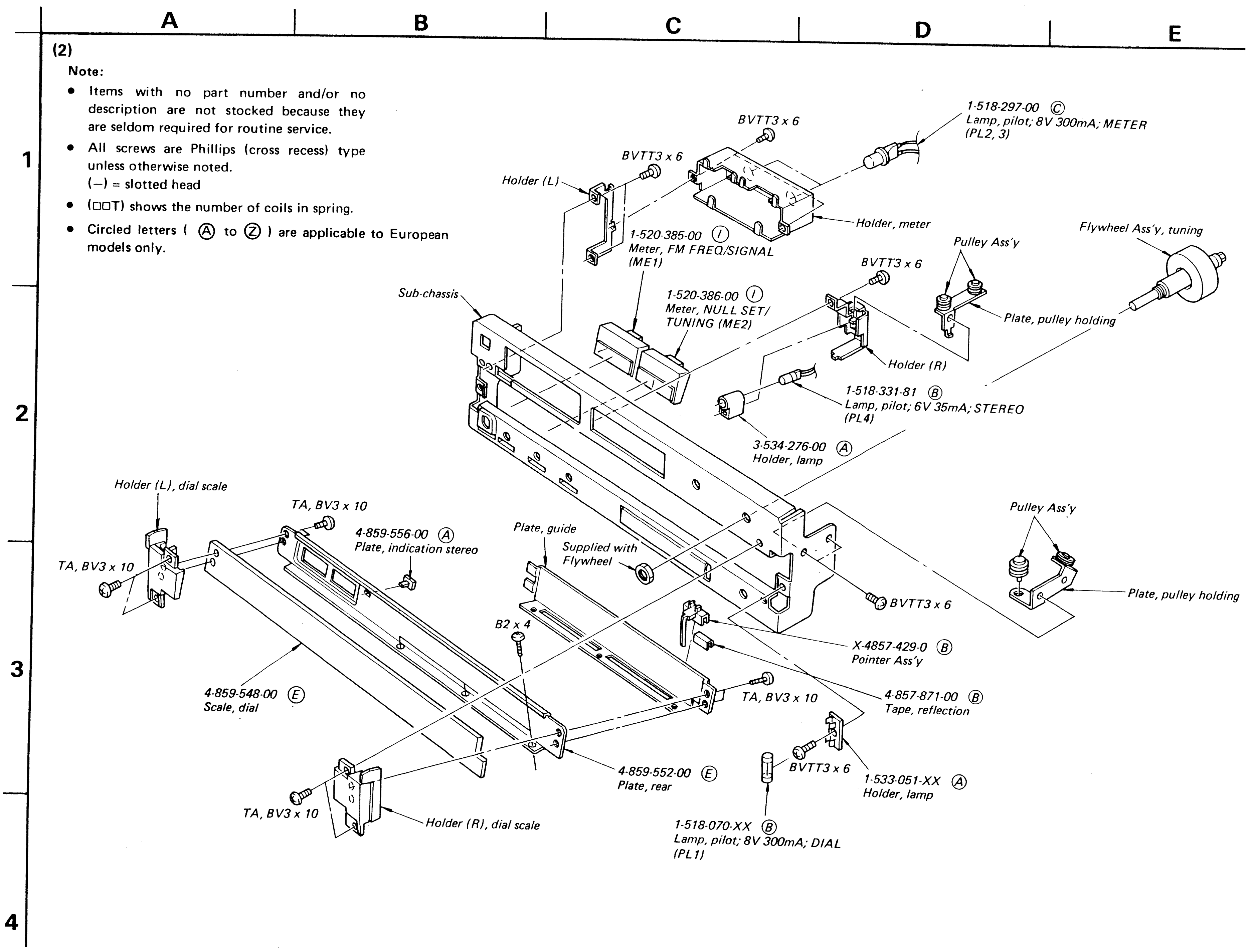
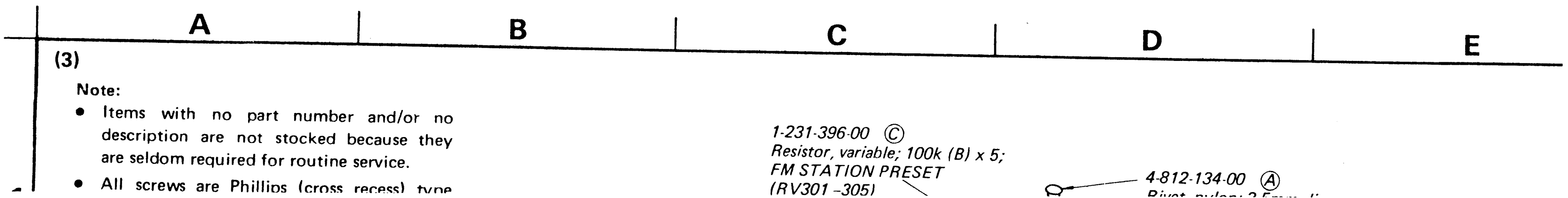
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

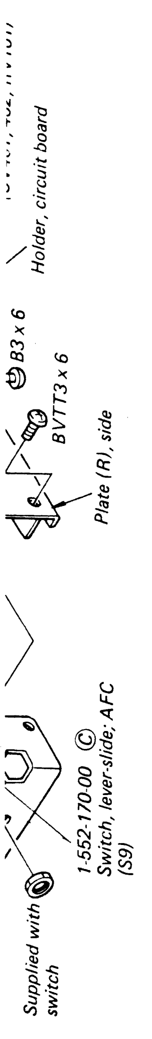

A
B
C
D
E
1
2
3
4
BVTT3 x 6
1-518-297-00 Ⓒ
Lamp, pilot; 8V 300mA; METER
(PL2, 3)
BVTT3 x 6
Holder (L)
Holder, meter
1-520-385-00 Ⓘ
Meter, FM FREQ/SIGNAL
(ME1)
Flywheel Ass'y, tuning
Pulley Ass'y
BVTT3 x 6
1-520-386-00 Ⓘ
Meter, NULL SET/
TUNING (ME2)
Plate, pulley holding
Sub-chassis
Holder (R)
1-518-331-81 Ⓑ
Lamp, pilot; 6V 35mA; STEREO
(PL4)
3-534-276-00 Ⓐ
Holder, lamp
Holder (L), dial scale
TA, BV3 x 10
4-859-556-00 Ⓐ
Plate, indication stereo
Plate, guide
Supplied with
Flywheel
Pulley Ass'y
TA, BV3 x 10
BVTT3 x 6
Plate, pulley holding
B2 x 4
X-4857-429-0 Ⓑ
Pointer Ass'y
4-859-548-00 Ⓔ
Scale, dial
TA, BV3 x 10
4-857-871-00 Ⓑ
Tape, reflection
4-859-552-00 Ⓔ
Plate, rear
BVTT3 x 6
1-533-051-XX Ⓐ
Holder, lamp
TA, BV3 x 10
Holder (R), dial scale
1-518-070-XX Ⓑ
Lamp, pilot; 8V 300mA; DIAL
(PL1)

(3)

Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type


A
B
C
D
E
1-231-396-00 Ⓒ
Resistor, variable; 100k (B) x 5;
FM STATION PRESET
(RV301 -305)
4-812-134-00 Ⓐ

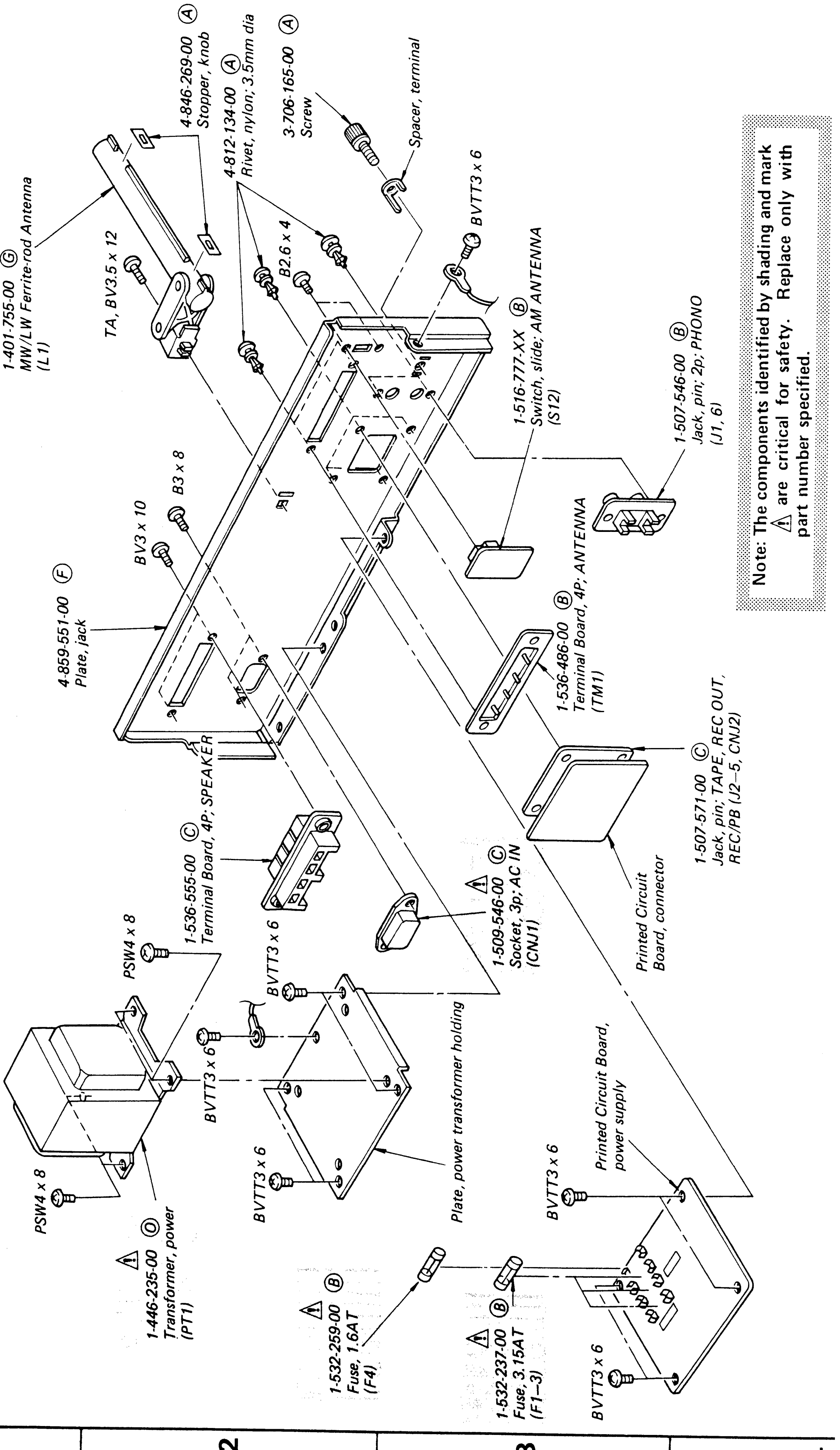

Holder, circuit board
B3 x 6
BVTT3 x 6
Plate (R), side
1-552-170-00 Ⓒ
Switch, lever-slide; AFC
(S9)
Supplied with switch
4

(5)

Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- (□□T) shows the number of coils in spring.

- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.


A
B
C
D
E
1
2
3
4
1-401-755-00 Ⓖ
MW/LW Ferrite-rod Antenna
(L1)
TA, BV3.5 x 12
4-846-269-00 Ⓐ
Stopper, knob
4-812-134-00 Ⓐ
Rivet, nylon; 3.5mm dia
3-706-165-00 Ⓐ
Screw
Spacer, terminal
B2.6 x 4
BVTT3 x 6
1-516-777-XX Ⓑ
Switch, slide; AM ANTENNA
(S12)
1-507-546-00 Ⓑ
Jack, pin; 2p; PHONO
(J1, 6)
B3 x 8
BV3 x 10
4-859-551-00 Ⓕ
Plate, jack
1-536-486-00 Ⓑ
Terminal Board, 4P; ANTENNA
(TM1)
1-507-571-00 Ⓒ
Jack, pin; TAPE, REC OUT,
REC/PB (J2–5, CNJ2)
Printed Circuit
Board, connector
1-536-555-00 Ⓒ
Terminal Board, 4P; SPEAKER
⚠ 1-509-546-00 Ⓒ
Socket, 3p; AC IN
(CNJ1)
PSW4 x 8
BVTT3 x 6
Plate, power transformer holding
Printed Circuit Board,
power supply
⚠ 1-446-235-00 Ⓞ
Transformer, power
(PT1)
⚠ 1-532-259-00 Ⓑ
Fuse, 1.6AT
(F4)
⚠ 1-532-237-00 Ⓑ
Fuse, 3.15AT
(F1–3)

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SECTION 6
ELECTRICAL PARTS LIST

- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	*Part No.*	*Description*
SEMICONDUCTORS		
Transistors		
Q101	8-729-671-13	Ⓑ 2SC710
⇒ Q102, 103	8-729-663-47	Ⓑ 2SC1364
⇒ Q301–303	8-729-663-47	Ⓑ 2SC1364
⇒ Q401, 402	8-729-671-15	Ⓑ 2SC710-15
Q501, 551	8-729-334-58	Ⓑ 2SC1345
⇒ Q502, 552	8-729-387-27	Ⓑ 2SA872-D
⇒ Q601, Q602, 652	8-729-663-47	Ⓑ 2SC1364
Q603, 653 Q604, 654	8-729-334-58	Ⓑ 2SC1345
⇒ Q605, 655	8-720-950-03	Ⓒ 2SC926A
⇒ Q606, 656	8-727-788-00	Ⓑ 2SA678
Q607, 657	8-729-364-71	Ⓑ 2SB647
Q608, 658	8-729-366-71	Ⓑ 2SD667
⇒ Q609, 659	8-729-306-62	Ⓓ 2SB566A
⇒ Q610, 660	8-729-307-62	Ⓒ 2SD476A
⇒ Q701, 703	8-729-663-47	Ⓑ 2SC1364
Q702	8-729-382-62	Ⓒ 2SC1826
Q704	8-723-302-00	Ⓒ 2SK43-2
ICs		
IC101	8-759-111-67	Ⓔ μPC1167C
IC201	8-759-311-96	Ⓕ HA1196
IC401	8-759-812-40	Ⓔ LA1240
Diodes		
D101–106 D201	8-719-815-55	Ⓐ 1S1555
D301, 302	8-719-815-55	Ⓐ 1S1555
D601, 651	8-719-300-11	Ⓒ SV04S
D701–703	8-719-815-55	Ⓐ 1S1555
⇒ D704	8-719-931-16	Ⓑ EQB01-16
⇒ D705	8-719-931-09	Ⓑ EQB01-09

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	*Part No.*	*Description*
⇒ D801–804	⚠8-719-911-55	Ⓒ U05G
D805	⚠8-719-510-10	Ⓒ SIRB10
COILS		
L1	1-401-755-00	Ⓖ MW/LW Ferrite-rod Ante
L101	1-407-741-00	Ⓑ 18μH, microinductor
L401	1-401-664-00	Ⓑ LW ANT
L402	1-407-169-XX	Ⓐ 100μH, microinductor
L403	1-407-173-XX	Ⓐ 220μH, microinductor
L404	1-407-195-XX	Ⓑ 1mH, microinductor
L405	1-405-826-00	Ⓑ MW OSC
L406	1-405-827-00	Ⓑ LW OSC
TRANSFORMERS & FILTERS		
CF101,102	1-527-344-91	Ⓑ Filter, ceramic
CFT401	1-404-085-00	Ⓑ AM IFT
IFT101	1-404-011-00	Ⓒ FM IFT
IFT401	1-404-087-00	Ⓓ AM IFT
LPF201,202	1-231-224-00	Ⓑ Filter, low-pass
PT1	⚠1-446-235-00	Ⓞ Transformer, power

CAPACITORS

All capacitors are in μF and ceramic unless otherwise noted. 50WV or less are not indicated except for electrolytics.
pF : μμF, elect : electrolytic

C101	1-121-391-00	Ⓐ 1	50V	elect
C102–106	1-101-924-00	Ⓐ 0.022		
C107, 108	1-101-925-00	Ⓐ 0.047		
C109	1-121-450-00	Ⓐ 2.2	50V	elect
C110	1-121-726-00	Ⓐ 0.47	50V	elect
C111	1-101-924-00	Ⓐ 0.022		
C112	1-121-391-00	Ⓐ 1	50V	elect
C113	1-121-651-00	Ⓐ 10	16V	elect
C114, 115	1-101-924-00	Ⓐ 0.022		
C116	1-101-925-00	Ⓐ 0.047		
C117	1-121-450-00	Ⓐ 2.2	50V	elect
C118	1-102-820-00	Ⓐ 330p		

- ⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.	Description		
C119	1-121-395-00	Ⓐ 4.7	25V	elect
C120	1-121-419-00	Ⓑ 220	6.3V	elect
C121	1-121-404-00	Ⓐ 33	25V	elect
C122	1-123-349-00	Ⓑ 100	35V	elect
C123	1-101-924-00	Ⓐ 0.022		
C124	1-121-395-00	Ⓐ 4.7	25V	elect
C201	1-104-065-00	Ⓐ 330p		polyethylene
C202	1-121-415-00	Ⓐ 100	16V	elect
C203, 204	1-121-651-00	Ⓐ 10	16V	elect
C205	1-121-392-00	Ⓐ 3.3	25V	elect
C206	1-121-391-00	Ⓐ 1	50V	elect
C207	1-108-246-00	Ⓐ 0.047		mylar
C208	1-131-451-00	Ⓐ 0.1	16V	tantalum
C209, 210	1-121-726-00	Ⓐ 0.47	50V	elect
C211, 212	1-102-824-00	Ⓐ 470p		
C401	1-108-239-00	Ⓐ 0.01		mylar
C402	1-108-352-00	Ⓑ 0.0018		mylar
C403	1-102-973-00	Ⓐ 100p		
C404	1-108-228-00	Ⓐ 0.0015		mylar
C405	1-104-067-00	Ⓐ 390p		polyethylene
C406	1-102-949-00	Ⓐ 12p		
C407, 408	1-101-924-00	A 0.022		
C409	1-108-239-00	Ⓐ 0.01		mylar
C410	1-101-924-00	Ⓐ 0.022		
C411	1-103-708-00	Ⓐ 220p		polystyrol
C412	1-102-815-00	Ⓐ 110p		
C413, 414	1-101-924-00	Ⓐ 0.022		
C415	1-108-239-00	Ⓐ 0.01		mylar
C416	1-101-924-00	Ⓐ 0.022		
C417	1-101-925-00	Ⓐ 0.047		
C418	1-121-479-00	Ⓐ 22	16V	elect
C419	1-101-001-00	Ⓐ 0.001		
C420	1-101-924-00	Ⓐ 0.022		
C421	1-101-925-00	Ⓐ 0.047		
C422	1-121-651-00	Ⓐ 10	16V	elect
C423, 424	1-101-924-00	Ⓐ 0.022		
C426	1-121-395-00	Ⓐ 4.7	25V	elect
C427	1-121-392-00	Ⓐ 3.3	25V	elect
C428	1-121-651-00	Ⓐ 10	16V	elect
C429	1-101-924-00	Ⓐ 0.022		

Ref. No.	Part No.	Description		
C430	1-108-244-00	Ⓐ 0.033		mylar
C431	1-108-242-00	Ⓐ 0.022		mylar
C432	1-101-001-00	Ⓐ 0.001		
C433	1-108-246-00	Ⓐ 0.047		mylar
C501, 551	1-121-391-00	Ⓐ 1	50V	elect
C502, 552	1-102-959-00	Ⓐ 22p		
C503, 553	1-102-824-00	Ⓐ 470p		
C504, 554	1-108-573-00	Ⓐ 0.0056		mylar
C505, 555	1-108-561-00	Ⓐ 0.0018		mylar
C506, 556	1-121-419-00	Ⓑ 100	6.3V	elect
C507, 557	1-121-391-00	Ⓐ 1	50V	elect
C508, 509	1-121-388-00	Ⓑ 1000	25V	elect
C601, 651	1-108-246-00	Ⓐ 0.047		mylar
C602, 652	1-102-824-00	Ⓐ 470p		
C603, 653	1-102-116-00	Ⓐ 680p		
C604, 654	1-121-726-00	Ⓐ 0.47	50V	elect
C605, 655 C606, 656	1-121-409-00	Ⓐ 47	16V	elect
C607, 657	1-108-252-00	Ⓑ 0.15		mylar
C608, 658 C609, 659	1-108-242-00	Ⓐ 0.022		mylar
C610, 660	1-108-228-00	Ⓐ 0.0015		mylar
C612, 662	1-102-963-00	Ⓐ 33p		
C613, 663 C614, 664	1-123-186-51	Ⓐ 47	35V	elect
C615, 665	1-108-244-00	Ⓐ 0.033		mylar
C616, 666	1-121-726-00	Ⓐ 0.47	50V	elect
C701	1-123-192-00	Ⓐ 47	16V	elect
C702	1-121-415-00	Ⓐ 100	16V	elect
C703	1-101-001-00	Ⓐ 0.001		
C704	1-102-973-00	Ⓐ 100p		
C801	⚠1-121-388-00	Ⓑ 1000	35V	elect
C802, 803	⚠1-125-155-00	Ⓔ 6800	35V	elect
C804–807	⚠1-108-393-00	Ⓑ 0.22	100V	mylar
C808	⚠1-129-718-00	Ⓐ 0.022	630V	polyethylene
C901	1-121-419-00	Ⓑ 220	6.3V	elect
CT401	1-141-171-00	Ⓑ Trimmer, 15p		
CT402	1-141-178-00	Ⓑ Trimmer, 5p		
CT403,404	1-141-171-00	Ⓑ Trimmer, 15p		

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.	Description
CV401,402 RV101	1-151-351-00	Ⓚ Variable Capacitor and Resistor, 100kΩ; TUNING

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted. Refer to the list on the last page for their part numbers.

Ref. No.	Part No.	Description		
R131	⚠1-211-490-00	Ⓐ 4.7	¼W	carbon (nonflammable)
R108, 111 R120, 203	⚠1-211-526-00	Ⓒ 150	¼W	carbon (nonflammable)
R218	1-244-859-00	Ⓐ 270	½W	carbon
R316	1-244-861-00	Ⓐ 330	½W	carbon
R618, 668 R620, 670	⚠1-211-524-00	Ⓐ 120	¼W	carbon (nonflammable)
R621, 671	⚠1-217-395-00	Ⓑ 47	¼W	fusible (nonflammable)
R622, 672 R623, 673	⚠1-211-524-00	Ⓐ 120	¼W	carbon (nonflammable)
R624, 674	⚠1-217-395-00	Ⓑ 47	¼W	fusible (nonflammable)
R625, 675	⚠1-211-536-00	Ⓑ 390	¼W	carbon (nonflammable)
R626, 676 R627, 677	1-217-153-00	Ⓐ 0.47	2W	metal oxide (nonflammable)
R628, 678	⚠1-211-590-00	Ⓐ 10	½W	carbon (nonflammable)
R629, 679	1-244-817-00	Ⓐ 4.7	½W	carbon
R630, 680	1-244-857-00	Ⓐ 220	½W	carbon
R801	⚠1-211-582-00	Ⓑ 4.7	½W	carbon (nonflammable)
R802	1-206-455-00	Ⓐ 4.7	2W	metal oxide (nonflammable)
RT101	1-224-644-XX	Ⓑ Adjustable, 4.7k ; METER		
RT102	1-224-645-XX	Ⓑ Adjustable, 10k; LOW FREQ		
RT201	1-224-645-XX	Ⓑ Adjustable, 10k; VCO		
RT202	1-224-649-00	Ⓑ Adjustable, 220k; SEPARATION		

Ref. No.	Part No.	Description
RT301	1-224-643-XX	Ⓑ Adjustable, 2.2k; LOW FREQ
RT302	1-224-643-XX	Ⓑ Adjustable, 2.2k; DC BALANCE
RT304	1-224-642-XX	Ⓑ Adjustable, 1k ; METER
RT601,651	1-224-646-XX	Ⓑ Adjustable, 22k; BIAS
RT701	1-224-644-XX	Ⓑ Adjustable, 4.7k; HIGH FREQ
RV301–305	1-231-396-00	Ⓒ Variable, 100 (B) x 5; FM STATION PRESET
RV601,651	1-226-335-00	Ⓒ Variable, 100k/100k (M/N); BALANCE
RV602,652	1-226-337-00	Ⓓ Variable, 100k/100 (B/B); VOLUME
RV603,653 RV604,654	1-226-231-00	Ⓒ Variable, 100k/100k (C/C); TONE (BASS, TREBLE)

SWITCHES

Ref. No.	Part No.	Description
S1	1-552-646-00	Ⓖ Rotary-slide, FUNCTION
S2	1-552-170-00	Ⓒ Lever-slide, MONITOR
S3	1-552-465-00	Ⓕ Lever-slide, MODE/FM MUTE
S4	1-552-170-00	Ⓒ Lever-slide, LOUDNESS
S9	1-552-170-00	Ⓒ Lever-slide, AFC
S10	1-552-644-00	Ⓖ Pushbutton, FM PRESET, MANUAL
S11	1-552-645-00	Ⓑ Pushbutton, NULL SET
S12	1-516-777-XX	Ⓑ Slide, AM ANTENNA
S13	⚠1-552-206-11	Ⓓ Pushbutton, POWER

JACKS

Ref. No.	Part No.	Description
J1, 6	1-507-546-00	Ⓑ Pin, 2P; PHONO
J2–5 (CNJ2)	1-507-571-00	Ⓒ Pin, TAPE, REC OUT (REC/PB)
CNJ1	⚠1-509-546-00	Ⓒ Socket, 3P; AC IN
CNJ3	1-509-564-00	Ⓒ Pin, HEADPHONES

FUSES

Ref. No.	Part No.	Description
F1–3	⚠1-532-237-00	Ⓑ Fuse, 3.15AT
F4	⚠1-532-259-00	Ⓑ Fuse, 1.6AT

MISCELLANEOUS

Ref. No.	Part No.	Description
CB601,651	⚠1-532-380-81	Ⓔ Circuit Breaker, 2.2A
CP801,802	⚠1-102-394-00	Ⓐ Compound Parts, 0.01/0.01, 250V
FE101	1-463-253-00	Ⓜ Front-End

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	*Part No.*	*Description*
ME1	1-520-385-00	Ⓘ Meter, FM FREQ/SIGNAL
ME2	1-520-386-00	Ⓘ Meter, NULL SET/TUNING
PL1	1-518-070-XX	Ⓑ Lamp, pilot; 8V 300mA; DIAL
PL2, 3	1-518-297-00	Ⓒ Lamp, pilot; 8V 300mA; METER
PL4	1-518-331-81	Ⓑ Lamp, pilot; 6V 35mA; STEREO
PL5–10	1-518-299-91	Ⓑ Lamp, pilot; 6V 35mA; FM/1–5, MANUAL
TM1	1-536-486-00	Ⓑ Terminal Board, 4P; ANTENNA
TM3	1-536-555-00	Ⓒ Terminal Board, 4P; SPEAKER
	1-533-051-XX	Ⓐ Holder, lamp

- Circled letters (Ⓐ to Ⓩ) are applicable to Europen models only.

ACCESSORIES & PACKING MATERIALS

Part No.	*Description*
1-501-161-00	Ⓕ Antenna, feeder
⚠1-534-819-00	Ⓖ Cord, power (UK model)
3-429-126-00	Ⓑ Bag, polyethylene
3-701-020-00	Ⓐ Bag, polyethylene
3-701-690-01	Ⓐ Label (UK model)
3-701-879-00	Ⓐ Label
3-770-671-11	Ⓔ Instruction Manual
4-846-269-00	Ⓐ Stopper, nob
4-859-506-00	Ⓑ Cushion, lower
4-861-113-00	Ⓒ Carton
4-861-114-00	Ⓒ Cushion, upper

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

1/4 WATT CARBON RESISTORS Ⓐ

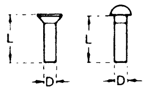
Note: Circled letter Ⓐ is applicable to European models only.

Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-576-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-577-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-578-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-579-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-580-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-581-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-582-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-583-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-584-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-585-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-586-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-587-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

HARDWARE NOMENCLATURE

Screw: – P 3 x 10

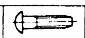
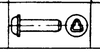
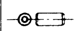
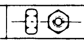
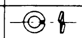
- *L: Length in mm*
- *D: Diameter in mm*
- *Type of head*
- *Indicated slotted-head only.*
  Unless otherwise indicated, it means cross-recessed head (Phillips type).



Nut, Washer, Retaining ring: N 3

- *Diameter of usable screw or shaft*
- *Reference designation*

Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

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